chronic copper poisoning, liver is swollen and deep yellow, spleen becomes friable with soft pulpy, kidneys are swollen, Gall bladder contained excess thick bile and urinary bladder showed the presence of yellow coloured urine. As other poisoning cases, injesta of stomach & intestine & tissue should be chemically analysed for confirmation of this poisoning.

121. Sodium chloride poisoning :-

Excessive intake of sodium chloride produce gatroenteritis and diarrhoea. Toxicity also occurs when salt intake is not excess but water intake is very les resulting into oedema of brain with nervous symptoms. In acute cases, congestion is found in the mucosa of omasum and abomasum (stomach). Heart shows the changes of hydropericarditis. Mucosa of intestine is congested & haemorrhagic. Injesta of lumen of intestine is blood colour.

122. Lead poisoning :-

It is commonest poisoning in animals, occurs due to accidental ingestion. The main post-mortem lesions

are those of gastritis (abomasitis), enteritis, severe congestion of lungs, degeneration of liver and kidneys, epicardial haemorrhage and congestion of meninges.

123. Selenium poisoning :-

The main lesions are congestion and necrosis of liver, medulla of kidneys, petechial haemorrhages of epicardium of heart, impaction of rumen with ulceration, congestion & necrosis of abomasum and small intestine. In chronic cases, changes of dilatation of heart, cirrhosis and nephritis are found.

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CHAPTER :- 4

REPORT OF POST-MORTEM EXAMINATION OF DIFFERENT DISEASES.

Post-mortem reports of different disease conditions of animals and poultry are given in this chapter for understanding. Veterinarians will gain knowledge about the alterations occurring in different organs during disease. These reports are imaginary but lesions mentioned in the reports are generaly found in those diseases. During post-mortem examination, lesions may differ from animal to animal and from disease to disease. Hence, it is necessary to write correct P.M. reports as per lesions seen in the dead animals. P.M. reports are "written documents" which are examined even after several years by higher authority, expert pathologist, police and court of law. There are several instances and examples of different states in which autopsists faced explanation, warning, suspension or dismissal from service particularly in Insurance and Medico-legal cases or in heavy death in farm in which P.M. report was not written correctly.

Reports of post-mortem examination of following pathological conditions are given :-

1. Poisoning in she goat.
2. Injury by sharp pointed weapon in pig.
3. Injury by sharp piercing object in pig.
4. Gun shot injury in calf.
5. Road accident of buffalo.
6. Internal haemorrhage in cow.
7. Traumatic splenitis in cow.
8. Burn injury in she goat.
9. Electric current in cow.
10. Heat-stroke in police-dog.

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11. Snake bite in mare.
12. Amphistomiasis
13. Liver flukes in cattle.
14. Hook-worms in dog.
15. Strongylosis in horse.
16. Verminous pneumonia in cattle.
17. Trichostrongylosis.
18. Heart worm in dog.
19. Nodule-worm disease in sheep.
20. Kidney-worm in swine.
21. Gid in goat.
22. Spirocercosis in dog.
23. Theileriasis in cattle.
24. Babesiasis in cow.
25. Surra of cattle.
26. Anaplasmosis in cattle.
27. Coccidiosis in calf.
28. Leptospirosis in canine.
29. Ketosis (Acetonemia) of ruminants.
30. Hypomagnesemic tetany in cow.
31. Downer-cow-syndrome.
32. Pyelo-nephritis in cattle.
33. Haemorrhagic gastro-enteritis in leopard.
34. Rani-khet disease in poultry.
35. Mareks disease in poultry.
36. Lymphoid leucosis in poultry.
37. Gum-boro disease in chickens.
38. Egg-drop syndrome in poultry.
39. Fowl pox in chicken.
40. Avian encephalomyelitis.
41. Bacillary white diarrhoea in poultry.
42. Fowl-Typhoid in poultry.

43. Fowl-cholera in poultry.
44. Fowl cholera in Turkey.
45. T.B. in poultry.
46. Aspergillosis or Brooder pneumonia in birds.
47. Spirochaetosis in poultry.
48. Vitamin-A deficiency in poultry.
49. Vitamin-E deficiency in chickens.
50. Egg-drop syndrome in poultry.
51. Poisoning case of cow.
52. Poisoning case of pig.
53. Inanition or emaciation of dog.
54. Pneumonia and hepatitis of a bullock.
55. Putrifaction and decomposition.
56. Accident by Truck.
57. Brain haemorrhage.
58. Injury by Bus.
59. Rani-khet disease.
60. Coccidiosis in poultry.
61. Theileriasis in cattle.
62. H.S. in bull.
63. B.Q. in bullock.
64. Rinderpest in cow.
65. Foot and Mouth disease in cow.
66. Swine-fever in pig.
67. Traumatic pericarditis in cow.
68. Glanders in horses.
69. Enteritis in swine.
70. Johne's disease in cow.
71. Rabies in dog.
72. Infectious bursal disease in poultry.
73. Death due to Drowning.

74. Death due to Navel ill.

75. Death due to African horse sickness.

76. Death due to Collibacillosis.

77. Death due to Tetanus.

78. Death due to Brucellosis.

79. Veterinary certificate for Insured animals.

(1) POLICE CASE OF POISONING IN SHE GOAT.

Report of post-mortem Examination.

P.M. No. 1/97 dt. 29/10/97

Species :- Caprine (she goat), Colour :- Black with white patches, Sex :- Female, Age :- About 2 years, Owner :- Bhubneshwar, Police station case no. 23/97 dt. 28/02/97 U/S 429/I.P.C.

By whom sent for examination, and reason, if any :- Incharge, Police station, Bhubneshwar, to know the cause of death.

Date & hour of death :- Not reported.

Date & hour of P.M.Examination :- 8 A.M. on 29/10/97.

History :- As reported by police, death of said she goat was suspected for poisoning.

External appearance and internal appearance after removal of skin:- Rigor mortis was absent from whole body. The carcass was completely decomposed, Abnoxious smell was coming from dead body. Abdomen was distended with gas. Rectum mucous membrane was partly averted through anus. Death appeared to have occurred 24 hours back i.e. about 8 A.M. on 28.10.97.

Mouth & pharynx :- Decomposed.

Nasal cavities :- Decomposed.

Larynx & trachea :- Decomposed.

Pleural cavity & lungs :- Severe decomposition, darkened with abnoxious smell.

Pericardium & heart :- Decomposed.

Peritoneal cavity :-

Liver :- Completely decomposed

Spleen :- Decomposed.

Stomach & small intestine :- Decomposed & distened with gas.

Urinary organs & genital organs :- Decomposed.

Brain, spinal cord & lymphnodes :- Decomposed.

Blood smears, if sent for microscopic examination :- Impression smears of liver, lungs, spleen, heart, intestine were prepared in clean glass slides. These slides showed the presence of putrifacative bacteria.

Diagnosis on the basis of above examination :- Carcass was not fit for diagnosis due to decomposition. Report of forensic laboratory is awaited.

Remarks (State, if viscera & tissues sent for chemical, bacterial, histopathological & parasitological examination) :- small pieces of liver, Spleen, kidneys, intestinal loop and contents of intestine & stomach were collected in glass container, preserved in saturated solution of salt & sealed properly. This sealed container was sent to the Director, Forensic laboratory for chemical examination. Request letter and F.I.R. of police were also forwarded to the Forensic laboratory.

Place were P.M.examination was made :- Bhubneshwar.

Date :- 29/10/97

Signature,

Designation of Autopsist,

Copy forwarded to Incharge, Police station, Bhubneshwar for necessary action.

(2) DEATH DUE TO INJURY BY SHARP POINTED WEAPON IN PIG.

Report of post-mortem Examination.

P.M.No. 2/97 dt. 05/03/97

Species :- Swine, Colour :- Black, Sex :- Male, Age :- 1.5 years., Owner :- Calcutta police station case no. 42/71 dated 05/03/97 U.S. 429/I.P.C.

By whom sent for examination & reasons, if any :- By Sri S.M.H.Akhtar, A.S.I. Calcutta Police station, Calcutta (West Bengal).

Date & hour of death :- Not reported by police.

Date & hour of P.M.examination :- 3.00 P.M. on 05/03/97.

History :- As reported by police in summary report, the said animal was killed by sharp pointed weapon to sell its meat in the market. This dead animal was found at 3.30 A.M. on 05/03/97 by mobile police.

External appearance & on removal of skin :- Death seems to have occurred 12 to 13 hours back between 3 A.M. to 4 A.M. on 5.3.97 because rigor mortis was completely present in all parts of body. The eyes were closed. There was injury mark on the right side of the body which was penetrating through the thoracic cavity piercering between 9th & 10th ribes. There was haemorrhaes & blood clots around the boundary or rim of this wound. The size of this piercing wound (hole) was about 2 inches diameter, present in the left flank region which was piercing through the 3rd & 4th rib. Rim of this wound was surrounded by blood clots causing dark red colour. Subcutaneous tissue & muscles surrounding these wounds were infiltrated by blood.

Mouth & Pharynx :- Bloody fluid was oozing from mouth.

Nasal cavities :- Bloody fluid was oozing from nose.

Larynx & trachea :- Froathy exudate was present in trachea.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- Pleural cavity contained about five ounces of clotted blood. Part of the lungs were covered with clotted blood.

Pericardium & heart :- There was cut hole on the wall of the left ventricle at two place about 2 inches a parts. The blood clot was smeared around the injury part of the heart. Heart was completely empty.

Peritoneal cavity :- N.A.D.

Liver :- Anaemic

Spleen :- Pale.

Stomach & intestine :- N.A.D.

Urinary organs :- Kidneys were pale.

Generative organs :- N.A.D.

Brain & spinal cord :- Meninges of brain was anaemic.

Lymph glands in general :- Pale.

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Blood smears if sent for microscopical examination :- Impression smears of liver, heart, spleen, lungs & kidneys were prepared.

Diagnosis on above lesions :- In my opinion, the death has occurred due to internal haemorrhage & shock caused by sharp pointed object.

Remarks :-

Results :- Smears of liver, lungs, spleen & kidneys were stained & examined. Only a few gram positive rods indistinguishable to putrifactive bacteria were found.

Place were P.M. examination was done :- Calcutta (West Bengal).

Date :- 05/03/97

Signature

Designation of Autopsist

Copy forwarded to the Incharge, Police Station, Calcutta for information & necessary action.

(3) DEATH DUE TO INJURY BY PIERCING OBJECT (BHALA) IN PIG.

Report of Post-mortem Examination.

P.M.No. 3/93, dt. 24/04/93

Species :- Swine (pig), Colour :- Grayish white, Sex :- female, Owner :- Kanpur police station case no. 32 dated 23/04/93, under section 429 I.P.C.

By whom sent for examination and reasons, if any :- Sri S.Anthony, A.S.I., Police station, Kanpur, to know the cause of death.

Date and hour of death :- Not reported.

Date and hour of P.M. Examination :- 9 A.M on 24/04/93.

History :- As reported by police, the pig is alleged to have killed by injury caused by Bhala blow (sharp pointed weapon).

External appearance & internal appearance after removal of skin :- Rigor-mortis was present in whole body. Death seems to have occurred about 12 hours earlier. Mouth was closed & could not be separated due to presence of rigor mortis. Abdomen was slightly distended with gas. Conjunctivae of eyes were slightly distended

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with gas. Conjunctiva of eyes were pale. On the left side of body at about 12 inches from vertebral column and 8 inches from the left hip joint, there was a 1.5 inch long sharp wound piercing the skin. Margin of this wound was surrounded by blood clot which was deep black colour. After removal of skin, this wound was piercing through muscles infiltrated with blood. In the posterior one third of the left wall of the abdomen, there was 1.5 inches wide wound containing blood clots.

Mouth & Pharynx :- Bloody fluid was oozing from mouth.

Nasal cavities :- Pale.

Larynx & trachea :- Pale.

Oesophagus :- N.A.D. Pleural cavity & lungs :- N.A.D.

Pericardium & heart :- Left ventricle of the heart was empty, but one ounce of blood clot was found in the right ventricle.

Peritoneal cavity :- Ingesta was found to have spread over intestinal loop and about 4 ounces of blood clots was found present in the peritoneal cavity.

Liver :- Moderately decomposed.

Spleen :- Shrunken & partially decomposed.

Stomach & intestine :- There was one inch wide wound in the colon. The blood clot was present at the margin of this wound. Ingesta of colon was found spread over intestinal loop.

Urinary organs :- Pale.

Generative organs :- N.A.D.

Brain & spinal cord :- Meninges of brain was pale.

Lymph nodes in general :- N.A.D.

Blood (state if smears made for microscopical examination) :- Smears from cut part of liver, lungs, spleen, lymph node, heart & intestine were made in clean glass slides.

Diagnosis on above examination :- The said pig died due to internal haemorrhage caused by injury by a sharp piercing object.

Remarks :- Small pieces of liver, heart, lungs, spleen & intestine were collected in 10% formalin.

Results :- Smears of heart, lungs, spleen, liver & lymph nodes were stained & examined under microscope. Smears showed a few gram positive thick rods indistinguishable from putrifactive bacteria.

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bacteria. Smears of intestine were negative for eggs of parasites.

Place were P.M. examination was done :- Kanpur (U.P.)

Date :- 24/04/93

Signature

Designation of Autopsist

Copy forwarded to the Incharge, Police Station, Kanpur for necessary action.

(4) DEATH DUE TO GUN-SHOT INJURY IN CALF.

Report of Post-mortem Examination.

P.M.No. 4/96, dt. 26/06/96.

Species :- Bovine (calf), Colour :- Gray black, Sex :- Male, Age :- About 1.5 year, Owner :- Pune police case no. 27/96 dated 25/06/96, U/S 147/148/149/307/429 I.P.C.

By whom sent for examination and reasons, if any :- By officer incharge, Police station, Pune, to know the cause of death.

Date and hour of death :- Not reported.

Date and hour of P.M. Examination :- 3 P.M on 26/06/96.

History :- As per history, sent by police, the calf in question is said to be dead of gun shot injury on the left side of body due to enemity.

External appearance and on removal of skin :- Rigor-mortis was present in both hind limbs. Death appeared to have occurred about 20 to 22 hours back i.e at about 11 A.M. to 1 P.M. on 25.06.96. A lacerated wound of about 2 cm. in diameter was present on skin of body which was 10 inches from the thoracic vertebra on the left side of the body. The boundary or rim of the wound had dark red appearance due to presence of blood clot. Conjunctivae of eyes were pale. Abnoxious odour was coming from carcass. Subcutaneous tissues around the wound was redden in colour due to infiltration of blood. An open wound of 3 cm. diameter was also found which was 10 inches away from the head of 13th left rib and located just beneath this rib surrounded by blood clot. Another round opened wound of about 3.5 inches diameter was present just behind the 12th right rib and about 12 inches below the 12th

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thoracic vertebra. A round metallic object was found in the subcutaneous tissue on the right side in the region of 11th & 12th right rib fracturing 12th thoracic vertebra.

Mouth & Pharynx :- Bloody fluid was oozing from mouth.

Nasal cavity :- Blood colour fluid was oozing from nose.

Larynx & trachea :- N.A.D.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- Raised grayish pink areas was present in the antero-ventral portion of both lungs.

Pericardium & heart :- Partially clotted blood was found in the right ventricle of heart.

Peritoneal cavity :- About half pound blood clot was present in the peritoneal cavity.

Liver :- Liver was pale. About 4 inches long and 1 inch wide wound containing blood clot was found in the posterior third of the parietal surface of liver.

Spleen :- A two inch open wound was found on the parietal surface of spleen which was away from ventral extremity. Wound was filled with blood clots.

Stomach & intestine :- About 3 inches wide open wound lacerated with blood clots was found in the dorsal sac of the rumen located ventral extremity of the spleen. Intestine & other parts of stomach were filled with gas.

Urinary organs :- Kidneys were pale.

Generative organs :- N.A.D.

Brain & spinal cord :- Meninges of brain was anaemic.

Lymph glands :- N.A.D.

Blood smears :- Smears of liver, lungs, spleen were prepared, stained & examined.

Diagnosis on above lesions :- In my opinion, the calf died due to internal haemorrhage consequent to the fire arm injury.

Remarks :- No.

Results :- Smears of liver, lungs and spleen showed a few gram positive rods indistinguishable from putrifactive bacteria.

Place, where P.M. examination was done :- Pune (Maharashtra)

Dr G Ram Babu

Date :- 26/06/97

Signature

Designation of Autopsist

Copy forwarded to officer incharge, Police Station, Pune for necessary action.

(5) DEATH OF BUFFALO DUE TO ROAD ACCIDENT OF BUFFALO.

Report of Post-mortem Examination

P.M.No. 5/91 dt. 17/06/91.

Species :- Buffalo, Colour :- Black, Sex :- Female, Age :- 6 years, Owner :- Traffic police station, Trivendrum case no. 17/93 dated 17/06/91.

By whom sent for examination and reasons, if any :- By Incharge, Traffic police station, Trivendrum, to know the cause of death.

History :- As reported by police, the said buffalo died due to accident by heavy vehicle.

Date and hour of death :- 10 A.M. on 17/06/91.

Date and hour of P.M. Examination :- 12 noon of 17/06/91.

External appearance and on removal of skin :- There were areas of injury of skin of different parts of body with blood clots. Rigor-mortis was absent & carcass was fresh. Death appeared to have occurred 2 to 3 hours earlier. There was prolapse of rectum through anal canal. Shaft of the ilium was broken on both sides. Neck of right femur supporting the head was fractured. Sub-cutaneous fat was normal dry and sticky to touch. 4th lumber vertebra was crushed to dorsal side & 4th inter-vertebral articulation was displaced. Last two thoracic vertebra (12th & 3th) were broken into pieces and boney specules were penetrated through the spinal cord at several places. There was clotted blood beneath the muscles in the lumber & thoracic vertebral region on either sides of vertebral column. Near the areas of right femur, muscles showed the presence of fresh haemorrhage & blood clot.

Mouth & Pharynx :- Bloody fluid was oozing from mouth.

Nasal cavity :- Red colour fluid was oozing from nose.

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Larynx & trachea :- Trachea showed the presence of froathy exudate in the lumen.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- The right lobe of lung showed hypostatic congestion.

Peritoneal cavity :- About four ounces blood clots was present in the peritoneal cavity.

Liver :- N.A.D.

Pericardium & heart :- Chambers of heart were empty.

Spleen :- N.A.D.

Stomach & intestine :- Wall of the ventral sac of rumen showed patches of congestion which were more expanded at the ventral side. Rectum was found protruded through the anal canal.

Urinary organs :- N.A.D.

Generative organs :- Uterus contained 6 months old dead fetus.

Brain & spinal cord :- spinal cord at lumber region and near the 2th & 13th thoracic vertebra was partially crushed. The spinal cord at the thoracic region was pierced by boney specules of thoracic vertebra.

Blood smears sent for microscopical examination :- Smears of heart, lungs, spleen and liver were prepared for examination.

Diagnosis on above examination :- In my opinion, said Buffalo died due to haemorrhage & shock due to extensive injury.

Results of smears :- Negative.

Place, where P.M. examination was made :- Trivendrum (Kerala)

Date :- 17/06/91

Signature

Designation of Autopsist

Copy forwarded to Traffic Police Station, trivendrum for information and necessary action.

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(6) DEATH DUE TO INTERNAL HAEMORRHAGE IN COW.

Report of Post-mortem Examination.

P.M.No. 6/95 dt. 13/09/95.

Species :- Bovine (Cross-bread cow), Colour :- Black, Sex :- Female, Age :- About 5 years, Owner :- Patna police station case no. 310/95 dated 12/08/98 U.S/I.P.C 428/420.

By whom sent for examination and reasons, if any :- By officer incharge, police station, Patna to know the cause of death.

Date and hour of death :- Not reported.

Date and hour of P.M. Examination :- 11.30 A.M. on 13./09/95.

History :- As reported by police, the said cow was fallen on left side due to forcibly eviction from road. Cow was cross breed with heavy weight.

External appearance and on removal of skin :- Rigor mortis was present in both hind limbs. The cow seems to have died about 15 to 16 hours earlier i.e at 8.30 to 9.30 P.M. on 12.09.95. Both eyes were pale. Red fluid was oozing from nose. Abrasion of skin of 15 squire inches size was present in front of left scapular region. After removal of skin, haemorrhages & blood clots were found in inter-mandibular muscles of neck, brisket and on chest behind left scapula. Haemorrhages or blood clots were also present in the muscles of left thigh and udder attaching the gland to abdominal wall.

Nasal cavities :- Bloody colour fluid was oozing.

Larynx & trachea :- N.A.D.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- Lungs were pale. Pleural cavity contained about four pounds red colour fluid.

Peritoneal cavity :- About two pounds blood coloured fluid was present.

Liver :- Liver was pale.

Pericardium & heart :- Heart was pale. Ventricles of heart were empty.

Spleen :- About three inches size rupture was found in posterior region of spleen. Blood clot was present on the margin of rupture

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area of spleen.

Stomach & small intestine :- Rumen, reticulum & intestine were distended with gas.

Urinary organs :- Kidneys were pale & partially decomposed.

Brain & spinal cord :- Meninges were pale.

Blood smears sent for microscopical examination :- No.

Diagnosis on above examination :- In my opinion, the said cow died due to internal haemorrhage owing to rupture of spleen and severe haemorrhage & crushing injury of left side of body.

Remarks (State if, viscera & tissue sent for bacterial, chemical, parasitological & histopathological examination) :- No.

Results :- No.

Place, where P.M. examination was made :- Patna

Thana :- Patna

Date :- 13/09/95

Signature &

Designation of Autopsist

Copy forwarded to officer incharge, police station patna for information and needful.

(7) DEATH DUE TO TRAUMATIC SPLENITIS IN COW.

Report of Post-mortem Examination.

P.M.No. 7/95 dt. 14/09/95.

Species :- Bovine (cow), Colour :- Black, Sex :- Female, Age :- About 6 years, Owner :- Sri S.M.S. Kumar, I.A.S. (Retd.), Mohamadpur, P.O.- Bishunpur, Begusarai, Bihar.

By whom sent for examination and reasons, if any :- By owner to know the cause of death.

Date and hour of death :- Night of 13/09/95

Date and hour of P.M. Examination :- 11.45 A.M. on 14/09/95.

History :- As reported, the said cow was emaciated inspite of good feeding, hide bound condition, temperature 104°F & was lying on

ground in prostate condition. Treatment was done but died.

External appearance and on removal of skin :- The nutritional condition of animal was poor with prominent boney eminences and hide-bound condition. The skin was loose and forming folds. Rigor mortis was present only in hind limbs. There were lesions of abraison of skin of left thoracic of different sizes varying from 3 to 8 inches in diameter with congestion. The muscles of whole body were dry, atrophied and sticky to touch. Subcutaneous fat became jelly like materials. Conjunctivae of eyes and mucous membrane of body were anaemic. Death appeared to have occurred 15 to 20 hours earlier.

Mouth :- N.A.D.

Nasal cavities :- Pale.

Larynx & trachea :- N.A.D.

Oesophagus :- Mucosa was pale.

Pleural cavity & lungs :- Anterio-ventral parts of both lungs were highly congested and consolidated. Cut parts of lungs showed the presence of froathy exudate.

Pericardium & heart :- About four ounces fluid was found in the pericardial sac with fibrinous strands hanging down from myocardium. Coronary fat became jelly like. Clotted blood was present in the ventricles of heart.

Peritoneal cavity :- About three pound seroserous fluid was present

Liver :- Partially decomposed & tough in consistency.

Spleen :- Several abscesses of 3 to 8 inches sizes were found on spleen. These anscesses contained yellow colour pus. Spleen was adherent to diaphragm. Six inches long wire was found in reticulum which was penetrating into spleen producing abscess in reticulum.

Urinary organs :- Kidneys were partialy decomposed.

Generative organs :- Uterus was non-gravid.

Brain & spinal cord :- N.A.D.

Blood smears, if sent :- Smears from abscess of spleen, heart & lungs were prepared and sent to Diagnostic laboratory.

Diagnosis on above examination :- Pneumonia, inanition (Debility) with traumatic splenitis.

Remarks :- No.

Results :- Awaited.

Place, where P.M. examination was done :- Begusarai (Bihar).

Date :- 14/09/95

Signature

Designation of Autopsist

(8) DEATH DUE TO BURN INJURY IN SHE GOAT.

Report of Post-mortem Examination

P.M.No. 8/97 dt. 03/02/97.

Species :- Caprine (she goat), Colour :- Black, Sex :- Female, Age :- One year, Owner :- Police case no. 10/97 of police station Gaya, dated 03/02/97, Residence of Gaya.

By whom sent for examination and reasons, if any :- Officer incharge, Police station Gaya, to know the cause of death.

Date and hour of death :- Not reported.

Date and hour of P.M. Examination :- 3 P.M. on 03./02/97.

History :- As reported by police, the said animal was deeply burnt.

External appearance and on removal of skin :- The carcass was completely decomposed. Abnoxious smell was coming form dead animal. Abdomen was ruptured due to accumulation of gas and putrifactive changes. Rigor mortis was absent. Death of animals appeared to have occurred three to four days earlier. Lesions of deep burnt areas were found in head and fore legs, skin, muscles and parts of bones of head were completely burnt. Both ears were burnt. The hoofs, skin, muscles & bones below knee joint of both fore-legs were completely burnt. Blackish deposits of carbon were found deposited in burnt areas. The remaining parts of bones above burnt of bones of legs were fragile & broken easily and converted into ashes.

Mouth & Pharynx :- N.A.D.

Nasal cavities :- N.A.D.

Larynx & trachea :- N.A.D.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- Lungs were highly decomposed.

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Pericardium & heart :- Decomposed.

Peritoneal cavity :- Decomposed.

Liver & gall bladder :- Decomposed.

Spleen :- Decomposed.

Stomach & small intestine :- Decomposed.

Urinary organs :- Decomposed.

Brain & spinal cord :- Decomposed.

Lymph glands in general :- Decomposed.

Blood smears sent for microscopical examination :- No.

Diagnosis on above examination :- Died due to deep burning.

Remarks (If, viscera & tissues sent for chemical, bacterial, histopathological & parasitological examination) :- No.

Results :- No.

Place, where P.M. examination was done :- Gaya (Bihar).

Thana :- Gaya

Date :- 03/02/97

Signature and

Designation of Autopsist

(9) A CASE OF DEATH OF COW DUE TO ELECTRIC CURRENT.

Report of Post-mortem Examination.

P.M.No. 9/95 dt. 20/10/95.

Species :- Bovine (Cow), Colour :- Black & white, Sex :- Female, Age :- About 7 years, Owner :- Case no. Nil/95 dated 19/10/95 of police station, Nalanda (Bihar).

By whom sent for examination and reasons, if any :- Officer incharge, Police station, Nalanda, to know the cause of death.

Date and hour of death :- 7 P.M. on 19/10/95.

Date and hour of P.M. Examination :- 12 noon of 20/10/95.

History :- As reported by police, people of the area stated that the said cow died due to electric current by hanging live electric wire

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on road.

External appearance and on removal of skin :- Rigor mortis was present in both hind limbs. There was mark of sign of burning on the skin under the jaw extending between two mandibles in the form of about 5 inches long & one inch wide. At this place, skin and sub-cutaneous tissues showed deep burn. The surrounding hair was singed, bordering tissue scorched & peripheral radiating lacerations were found. Abdomen was distended with gas. Bloody fluid was oozing from natural orifices.

Mouth & Pharynx :- Half-chewed food was present in the mouth.

Nasal cavities :- Bloody fluid was oozing from nose.

Larynx & trachea :- Petechial haemorrhages were seen in the mucosa of trachea.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- Lungs were congested & oedematous.

Pericardium & heart :- There were sub epicardial and endocardial haemorrhages. Black coloured unclotted blood was found in the chambers of heart. Right chamber of heart was dilated.

Liver :- Liver and mucosa of gall bladder were congested.

Stomach & intestine :- Congested.

Urinary organs :- Cortical surfaces of kidneys were congested.

Generative organs :- N.A.D.

Brain & spinal cord :- N.A.D.

Lymph nodes in general :- Pre-scapular lymph nodes and other lymph nodes were haemorrhagic

Blood smears if prepared :- No.

Diagnosis on above lesions :- The said cow died due to electric current injury.

Remarks :- No.

Place, where P.M. examination was done :- Nalanda (Bihar).

Date :- 20/10/95

Signature,

Designation of Autopsist

Dr G Ram Babu

(10) A CASE OF HEAT-STROKE IN POLICE DOG.

Report of Post-mortem Examination.

P.M.No.10/95 dt. 02/06/95.

Species :- Canine (Dog), Colour :- Gray, Sex :- Male, Age :- Adult, Owner :- Police dog squad, Bhopal, to know the cause of death.

By whom sent for examination and reasons, if any :- Incharge, police Dog squad, Bhopal, to know the cause of death.

Date and hour of death :- 4 P.M. on 01/06/95.

Date and hour of P.M. Examination :- 10.30 A.M. on 02/06/95.

History :- The said dog had helped police to solve several robbery and murder cases since last five years. On the date of death, the said dog was on duty in investigating a murder case from morning of 01/01/95. Suddenly, the dog suffer with high rise of temperature, respiratory distress, red eyes, excitement at about 2 P.M. and died at 4 P.M. weather was very hot.

External appearance and on removal of skin :- Blood colour fluid was oozing from nose and mouth. Muscles of the body was deep red colour. Eyes were red.

Mouth & Pharynx :- Tongue was parched. Red colour fluid was oozing from mouth.

Nasal cavities :- Mucosa was congested.

Larynx & Trachea :- Congested.

Pleural cavity & lungs :- Both lungs were congested, consolidated & oedematous with changes of broncho-pneumonia.

Pericardium & heart :- Coronary artery was hyperaemic. Heart was dilated & contained semi-clotted blood.

Liver :- Liver was congested.

Spleen :- Congested.

Stomach & small intestine :- Mucosae were congested.

Urinary organs :- Cortex of both kidneys were congested.

Generative organs :- N.A.D.

Brain & spinal cord :- Meninges were congested.

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Lymph nodes in general :- N.A.D.

Blood smears sent for microscopical examination :- Impression smears of heart, lungs, spleen, kidneys & lymph nodes were prepared in glass slides & sent to Govt. Diagnostic laboratory for examination & report.

Diagnosis on above lesions :- History and above lesions suggest that said dog died due to heat stroke and congestive heart failure.

Remarks (State, if viscera & tissue specimens sent for chemical, bacterial, parasitological & histopathological examination) :- Pieces of liver, lungs, spleen, heart, brain & kidney were collected in 10 percent formalin & sent to Diagnostic laboratory for examination & report.

Results :- Awaited from Diagnostic laboratory.

Place, where P.M. examination was done :- Bhopal (M.P).

Date :- 02/06/95

Signature,

Designation of Autopsist

(11) DEATH DUE TO SNAKE-BITE IN MARE.

Report of Post-mortem Examination.

P.M.No.11/97 dt. 18/02/97.

Species :- Equine (Mare), Colour :- Gray, Sex :- Female, Age :- 5 years, Owner :- Mr. Albert Maria, Rajiv Nagar, Katak (Orissa).

By whom sent for examination and reasons, if any :- By owner, to know the cause of death.

Date and hour of death :- 4 P.M. on 17/02/97.

Date and hour of P.M. Examination :- 4.00 P.M. on 18/02/97.

History :- As reported by owner, the said animal was grazing in the field & died suddenly. Suspected for snake biting.

External appearance and on removal of skin :- Rigor mortis was absent. Conjunctivae of eyes were congested. There was swelling around the nose. Blood clot was present in the centre of swolling indicating the site of snake bite. This swollen part was hard & tense. Changes of extreme passive congestion were found in the

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whole body.

Mouth & Pharynx :- Red colour fluid was oozing from mouth.

Nasal cavities :- Nostrils were partially closed due to swelling found around the nose.

Larynx & Trachea :- Trachea was congested & contained fluid in the lumen.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- Excess fluid of red colour was found in the pleural cavity. Lungs were congested & oedematous.

Pericardium & heart :- Petechial haemorrhages were found on the surface of heart. Heart & aorta showed the presence of unclotted blood. Blood was deep black colour.

Peritoneal cavity :- Blood coloured fluid was found in the peritoneal cavity.

Liver :- Liver was congested. Petechial haemorrhages were found in the mucosa of gall bladder.

Spleen :- Congested.

Stomach & small intestine :- Mucosa of stomach was congested and haemorrhagic.

Urinary organs :- Both kidneys were highly congested.

Generative organs :- N.A.D.

Brain & spinal cord :- Brain was haemorrhagic.

Lymph nodes in general :- N.A.D.

Blood smears sent for microscopical examination :- Impression smears of liver, lungs, spleen, heart, intestine were sent to Diagnostic laboratory for examination & report.

Diagnosis on above lesions :- Death occurred due to snake bite.

Remarks (State, if tissue specimens sent for chemical, bacterial, parasitological & histopathological examination) :- Pieces of liver, heart, kidneys, spleen, were collected in 10% formalin & sent to Diagnostic laboratory for examination.

Results :- Awaited from Diagnostic laboratory.

Place, where P.M. examination was done :- Katak (Orissa).

Date :- 18.02.97

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Signature.

Designation of Autopsist

(12) DEATH DUE TO IMMATURE AMPHISTOMIASIS IN CALF OR SHEEP.

Report of Post-mortem Examination.

P.M.No. 12/97 dt. 27/06/97.

Species :- Bovine (calf), Colour :- White, Sex :- Female, Age :- 6 months, Owner :- Sri Devanand Prasad, Manager, Gramin Bank, P.Dayal Road, Barmasia, B.Deoghar, (Bihar).

By whom sent for examination and reasons, if any :- By owner, to know the cause of death.

Date and hour of death :- 5 A.M. on 27/06/97.

Date and hour of P.M. Examination :- 9 A.M. on 27/05/97.

History :- As reported by owner, said calf had suffered with persistent fetid diarrhoea, dehydration, weakness, depression, anorexia with loss of weight. Animal had exhibited submaxillary oedema and died.

External appearance and on removal of skin :- There was oedema in the submaxillary region. Carcass was emaciated and anaemic.

Mouth & Pharynx :- Nothing abnormal detected. (N.A.D).

Nasal cavities :- Mucosa was anaemic.

Larynx & Trachea :- N.A.D.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- Excess fluid was found in the pleural cavity.

Pericardium & heart :- Clotted blood was found in the chambers of heart.

Peritoneal cavity :- Excessive fluid was present in the peritoneal cavity. Changes of severe peritonitis were found.

Liver :- N.A.D.

Spleen :- N.A.D.

Stomach & small intestine :- Numerous mature and immature red coloured flukes (paramhistomes) were present in the duodenum

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and abomasum. Mucosa of duodenum was highly congested and haemorrhagic. Lumen of duodenum showed the presence of blood stained injesta.

Urinary organs :- Cortical surfaces of kidneys were anaemic & pale.

Generative organs :- N.A.D.

Brain & spinal cord :- Meninges of brain was anaemic.

Lymph nodes in general :- N.A.D.

Blood smears sent for microscopical examination :- Smears of different visceral organs were prepared in glass slides & sent to the Diagnostic laboratory for examination.

Diagnosis on above examination :- Death occurred due to immature amphistomiasis.

Remarks :- Flukes and pieces of visceral organs were collected in 10% formalin & sent to the Diagnostic laboratory for examination & report.

Results :- Awaited from Diagnostic laboratory.

Place, where P.M. examination was done :- B.Deoghar (Bihar).

Date :- 27/06/97

Signature.

Designation of Autopsist

Note :- (1) This disease is diagnosed on the basis of clinical symptoms, history of occurrence of this disease in the area & by post-mortem examination with the presence of numerous red coloured immature paramphistomes in duodenum.

(2) Treatment can be done with oxyclozamide, Niclosamide, Resorantel, Bithionol or hexachlorethane etc.

As animals suffer with enteritis, diarrhoea and dehydration, intestinal sedative and parenteral fluid are given to set right loss of fluid. B.complex supplementations in form of injections are given.

Snails act as intermediate host. Hence, molluscides is used extensively to control snails. Animals are sent to graze at higher grounds.

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(13) DEATH DUE TO HEPATIC FASCIOLIOSIS (LIVER-FLUKES) IN CATTLE.

Report of Post-mortem Examination.

P.M.No. 13/96 dt. 28/07/96.

Species :- Bovine (cow), Colour :- Red, Sex :- Female, Age :- 7 years, Owner :- Sri Ashokanand Prasad, Labour Officer, Barmasia, P.Dayal Road, B.Deoghar (Bihar).

By whom sent for examination and reasons, if any :- By owner, to know the cause of death.

Date and hour of death :- 28/07/96 at 8 A.M.

Date and hour of P.M. Examination :- 3 P.M. on 28/07/96.

History :- As reported by owner, said cow had shown the symptoms of emaciation, weakness, icterus, diarrhoea, constipation and the faeces were passed with difficulty, being hard and brittle. On clinical examination, blood picture of said cow was severe hypochromic, macrocytic anaemia and hypoalbuminaemia. Death occurred after long course of disease.

External appearance and on removal of skin :- Carcass was emaciated and icteric. Eyes were yellowish colour. Loose skin. Rigor mortis was present in head, neck and both forelegs. Abdomen was distended with accumulated fluid. Muscles of body were anaemic & atrophied. Subcutaneous fat was yellow & became jelly like.

Mouth & Pharynx :- N.A.D.

Nasal cavities :- Mucosa was pale in colour.

Larynx & Trachea :- Nothing abnormal detected (N.A.D.)

Oesophagus :- Mucosa was anaemic.

Pleural cavity & lungs :- N.A.D.

Pericardium & heart :- Semi clotted blood was found in the auricles & ventricles of heart.

Peritoneal cavity :- Peritoneal cavity showed the presence of excessive blood tinged fluid and blood clots. Changes of peritonitis were seen.

Liver :- Liver showed the changes of biliary cirrhosis in which liver was very hard, fibrotic and difficult to cut. The bile ducts were found

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greatly enlarged, thickened, prominent and appears as gray or white cord like structures. The wall of the ducts were calcified & protruded prominently from the surface & very hard to cut.

The large leaf like flukes were found in the enlarged and thickened bile ducts of ventral lobe of the liver.

Spleen :- N.A.D.

Stomach & small intestine :- N.A.D.

Urinary organs :- Cortex of kidneys were anaemic.

Generative organs :- N.A.D.

Brain & spinal cord :- N.A.D.

Lymph nodes in general :- Hepatic lymph nodes were dark brown in colour.

Blood smears sent for microscopical examination :- Smears of various organs were sent to the Diagnostic laboratory for examination.

Diagnosis on above examination :- Fascioliosis.

Remarks :- Flukes from liver were collected & kept pressed between two slides tied with thread & sent in 10% formalin to the laboratory for identifaction. Small pieces of liver, hepatic lymph nodes, liver, heart, lungs & spleen were also sent to the laboratory in 10% formalin.

Results :- Awaited from Diagnostic laboratory.

Place, where P.M. examination was done :- B.Deoghar (Bihar).

Date :- 28/07/97

Signature,

Designation of Autopsist

Note :- (1) In the living animals, diagnosis is made by finding eggs in faeces which have yellow shell with an indistict operculum and the embryonic cells.

(2) Snails are intermediate host of the trematode. Hence it is necessary to take control measures to kill the snails by using suitable molluscicide in warm sunny day when snails are very active.

(3) For treatment, many drugs are effective against adult and

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immature flukes such as Rafoxanide, closantel, Triclabendazole, Clioxanide, Levamisole with Oxyclozanide and Hexachlorophene etc.

(14) DEATH DUE TO ANCYLOSTOMIASIS (HOOKWORM) IN DOG.

Report of Post-mortem Examination.

P.M.No. 14/96 dt. 17/06/96.

Species :- Canine (Dog), Colour :- Black, Sex :- Male, Age :- 6 months, Owner :- Sri Satyendra Mohan Sinha Kumar, I.A.S. (Retd). Mohamadpur, Begusarai, (Bihar).

By whom sent for examination and reasons, if any :- By owner, to know the cause of death.

Date and hour of death :- 17/06/96 at 9 A.M.

Date and hour of P.M. Examination :- 11 A.M. on 17/06/96.

History :- Important symptoms shown by dog before death were bloody diarrhoea, dehydration, anaemia and weakness of hind legs.

External appearance and on removal of skin :- Carcass was emaciated and anaemic due to which pale mucous membrane, anaemic conjunctivae of eyes, atrophied muscles and jelly appearance of subcutaneous fat were found.

Mouth & Pharynx :- N.A.D.

Nasal cavities :- Mucosa was anaemic.

Larynx & Trachea :- Trachea contained exudate.

Oesophagus :- Mucosa of oesophagus was pale.

Pleural cavity & lungs :- Both lungs showed the changes of pneumonia alongwith haemorrhage.

Peritoneal cavity :- N.A.D.

Liver :- Liver was swollen, light brown colour, easy to cut and bulged on incision indicating fatty changes.

Spleen :- N.A.D.

Stomach & small intestine :- Mucosa of small intestine was swollen, haemorrhagic and congested. Lumen of the small intestine showed numerous small red bite marks. Numerous small

round worms were found either attached to the mucosa or free in the lumen of small intestine.

Urinary organs :- N.A.D.

Generative organs :- N.A.D.

Brain & spinal cord :- N.A.D.

Lymph nodes in general :- N.A.D.

Blood smears sent for microscopical examination :- Smears of liver, intestine, lungs, heart & spleen were prepared in glass slides & sent to the laboratory.

Diagnosis on above examination :- Death occurred due to hookworms infection.

Remarks :- (1) Nematodes were collected from intestine in warm 70% alcohol & sent to the Diagnostic laboratory for identification of parasites.

(2) Pieces of intestine & other organs were sent in 10% formalin to Diagnostic laboratory for histopathological examination.

Results :- Awaited from Diagnostic laboratory.

Place, where P.M. examination was done :- Mohamadpur. Begusarai, (Bihar).

Date :- 17/06/96

Signature,

Designation of Autopsist

Note :- (1) Specific anthelmintic such as Tetrachlorethylene, Tetracap, Wormin, Mebex, Idibend or Ancylol, Benzimidazole levamisole or moranted etc. should be given to all diseased animals whose faecal examination is positive for hookworm infections and easily assimilable iron therapy with protein rich diet. Ground and pens of house of dog should be kept dry. Floor of kennels should be treated with common salt of sodium borate which will help to kill to larvae of this parasite for control of this disease.

(2) Faecal examination of animals should be regularly done to detect parasitic infection.

(15) DEATH DUE TO STRONGYLOSIS IN HORSE (ROUNDWORM)

Report of Post-mortem Examination.

P.M.No. 15/97 dt. 02/03/97.

Species :- Equine (Horse), Colour :- Brown, Sex :- Male, Age :- 1.5 years, Owner :- Sri Divyanshu Ranjan, Asstt. Manager, State Bank of India, Agricultural Marketing Yard, Araria (Bihar).
Date and hour of death :- 01/03/97 at 5 A.M.
Date and hour of P.M. Examination :- 10 A.M. on 02/03/97.
History :- As reported, important symptoms, shown by horse, were anaemia, emaciation, weakness, dull, anorexia and intermittent colic pain with increased body temperature, diarrhoea and constipation. Said horse remained ill for last 20 days & died.
External appearance and on removal of skin :- Conjunctiva of eyes were pale. Carcass was emaciated and anaemic due to which muscles of the body were atrophied & pale. Subcutaneous fat was jelly like. Rigor mortis was present in the trunk & hind limbs only. Death seems to have occurred about 15 to 17 hours earlier.

Mouth & Pharynx :- Anaemic.

Nasal cavities :- Mucosae of nostrils were pale.

Larynx & Trachea :- Anaemic.

Oesophagus :- N.A.D.
Pleural cavity & lungs :- N.A.D.
Pericardium & heart :- Clotted blood was found in heart.

Peritoneal cavity :- Excess fluid was present in the peritoneal cavity.

Liver :- Haemorrhagic tracts were present on the surface of liver. Part of liver showed the changes of ischemia.

Spleen :- N.A.D.

Stomach & small intestine :- N.A.D.

Large intestine :- Several red coloured adult round worms of 1 to 2 inches length were present in the lumen of caecum and colon. These nematodes were found attached to the mucosa of caecum & colon. Mucosa of caecum and colon also showed the presence of biting haemorrhages with changes of haemorrhagic enteritis. Several small nodules were present in the mucosa of large intestine. Wall of mesenteric artery was highly thickened.

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Urinary organs :- N.A.D.

Generative organs :- N.A.D.

Brain & spinal cord :- N.A.D.

Lymph nodes in general :- N.A.D.

Blood smears sent for microscopical examination :- Smears of intestine, liver, heart, spleen & lymph nodes were prepared and sent to Diagnostic laboratory.

Diagnosis on above examination :- Strongylosis.

Remarks (State if viscera & tissue specimens sent for examination):- (1) Adult round worms were collected in warm 70% alcohol & sent to Diagnostic laboratory.

(2) Pieces of liver, small and large intestine were collected in 10% formalin & sent to the Diagnostic laboratory for histopathological examination.

Results :- Awaited from Diagnostic laboratory.

Place, where P.M. examination was done :- Araria, (Bihar).

Date :- 02/03/97

Signature,

Designation of Autopsist

Note :- (1) Treatment of Strongylosis is done with phenothiazine plus piperazine. Camlendazole (25mg/kg), Fen bendazole (5mg/kg), oxibendazole (10mg/kg body weight) are very effective and safe drugs. Any one of these drugs can be used in this disease.

(2) Faecal examination to other animals should be done regularly.

(16) DEATH DUE TO VERMINOUS PNEUMONIA (PULMONARY NEMATODIASIS).

Report of Post-mortem Examination.

P.M.No. 16/96 date 04/08/96.

Species :- Bovine (Cow), Colour :- Black, Sex :- Female, Age :- 2 years, Owner :- Sri Pankaj Barial S/o Late V.K.S. Barial, Special security officer, Electricity Board, Patna (Bihar).

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By whom sent for examination and reason, if any :- By owner, to know the cause of death.

Date and hour of death :- 12.30 P.M. on 04/08/96.

Date and hour of P.M. Examination :- 2 P.M. on 04/08/96.

History :- Before death, said animal had shown the symptoms of respiratory disease, laboured respiration, diarrhoea, anorexia, stunted growth and pneumonia. Nasal discharge and coughing were also present.

External appearance and on removal of skin :- Nasal discharge was seen.

Mouth & Pharynx :- Nothing abonormal detected.

Nasal cavities :- Nostrils contained fluid.

Larynx & Trachea :- Thread like worms were present in the lumen of trachea. Froathy exudate was also found in the trachea.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- Both lungs were congested and consolidated. Thread like worms were present in the bronchi, bronchioles and other parts of lungs. On incision of lungs, these worms with froathy exudate were found. Parts of lungs showed the changes of emphysema, and oedema. Some parts of the lungs showed areas of collapse which appear as dark pink colour.

Pericardium & heart :- Clotted blood was present in the heart.

Peritoneal cavity :- N.A.D.

Liver :- N.A.D.

Spleen :- N.A.D.

Stomach & small intestine :- Mucosa of intestine was haemorrhagic.

Urinary organs :- N.A.D.

Generative organs :- N.A.D.

Brain & spinal cord :- N.A.D.

Lymph nodes in general :- Mesentery glands were swollen and inflamed.

Blood smears sent for microscopical examination :- Impression smears of lungs, trachea, heart, intestine, spleen & mesenteric lymph glands were prepared in glass slides & sent to the

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Diagnostic laboratory for examination.

Diagnosis on basis of above lesions :- Verminous pneumonia.

Remarks :- (1) Adult nematodes (Thread like worms) were collected in 70% alcohol & sent to laboratory for identification.

(2) Small pieces of lungs, trachea, intestine, mesenteric lymph glands, heart and spleen were collected in 10% formalin & sent to the laboratory for histopathological examination.

Results :- Awaited from Diagnostic laboratory.

Place, where P.M. examination was done :- Patna, (Bihar).

Date :- 04/08/96

Signature,

Designation of Autopsist

Note :- (1) It is better to give combined treatment with anthelmintic, antihistamine and antibiotic or sulfonamide to kill parasites and to check bacterial infection in infected animals.

Broad spectrum anthelmintics are useful in this disease for treatment. Oxfendazole, fenbendazole, levamisole, albendazole and ivermectin are very effective for treatment of lungworms infection in animals.

(17) DEATH DUE TO TRICHOSTRONGYLOSIS (GASTRO-INTESTINAL NEMATODES) IN CALF OR GOAT OR SHEEP.

Report of Post-mortem Examination

P.M.No. 17/96 date 14/08/96.

Species :- Bovine (Calf), Colour :- Black & White, Sex :- Male, Age:- 6 months, Owner :- Sri N.P. Khankar, Ratnagiri (Maharastra).

By whom sent for examination and reason, if any :- By owner, to know the cause of death.

Date and hour of death :- 1 P.M. on 14/08/96.

Date and hour of P.M. Examination :- 3.30 P.M. on 14/08/96.

History :- The said animal had shown the symptoms of loss of weight, stunted growth, unthriftiness, loss of appetite and diarrhoea with thin fetid black coloured faeces.

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External appearance and on removal of skin :- Carcass was emaciated and dehydrated. Mucous membranes of body were pale and anaemic. Eyes were pale.

Mouth & Pharynx :- Nothing abnormal detected.

Nasal cavities :- Mucosa was anaemic.

Larynx & Trachea :- Pale.

Oesophagus :- Mucosa of oesophagus was anaemic.

Pleural cavity & lungs :- N.A.D.

Pericardium & heart :- Clotted blood was found in the heart.

Peritoneal cavity & liver :- Liver was swollen.

Spleen :- N.A.D.

Stomach & small intestine :- Focal haemorrhages were found in the mucosa of small intestine. Several small nodules of 1 to 2 mm in diameter were found in the abomasal mucosa. Some of these nodules showed the presence of very small size brown colour roundworms projected from nodules in the mucosa of abomasum. Mucosa of abomasum and small intestine were congested and inflamed. A few small brown nematodes were found in lumen of small intestine.

Urinary organs :- N.A.D.

Generative organs :- N.A.D.

Brain & spinal cord :- N.A.D.

Lymph nodes in general :- N.A.D.

Blood smears sent for microscopical examination :- Impression smears of nodules of abomasum, intestine, liver, lungs and heart were prepared in glass slides and sent to the Diagnostic laboratory for examination.

Diagnosis on above examination :- Death of calf occurred due to parasitic abomasitis and enteritis.

Remarks :- (State if viscera & specimens sent for chemical, bacterial, parasitic & histopathological examination) (1) For detection of these small worms, Coarser injesta of abomasum & small intestine was removed by a sieve & then examined with a hand lens or by dissecting microscop. These worms were collected in 70% alcohol & sent to the laboratory for identification.

(2) Small pieces of nodular abomasum, intestine, lungs & heart

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were sent to the Diagnostic laboratory in 10% formalin for histopathological examination & report.

Results :- Awaited from Diagnostic laboratory.

Place, where P.M. examination was done :- Ratnagiri (Maharashtra).

Date :- 14/08/96

Signature,

Designation of Autopsist

Note :- (1) Faecal examination of all other young animals should be done to detect ova of gastrointestinal nematodes.

(2) Treatment of all diseased animals is done with broad spectrum anthelmintics available in the market which have low toxicity. Most of them are Benzimidazoles. Several combinations or substitutes of this drug are available which have broad spectrum activity. These are Thiabendazole. Mebendazole, Albendazole, probendazole.

(18) DEATH DUE TO HEART WORM (DIROFILARIA IMMITIS) IN DOG.

Report of Post-mortem Examination

P.M.No. 18/97 date 19/01/97.

Species :- Canine (Bitch), Colour :- Red, Sex :- Female, Age :- 5 years, Owner :- Sri Abhay Kumar Barial, Munsif, Mathura - Kutir, Par Nawada, Nawada, (Biha).

By whom sent for examination and reason, if any :- By owner, to know the cause of death.

Date and hour of death :- 10 P.M. on 18/01/97.

Date and hour of P.M. Examination :- 9 A.M. on 19/01/97.

History :- As reported by owner, bitch had shown the symptoms of cough, rapid breathing, detectable heart murmur, collapse after movement or exercise, weakness, hepatomegaly, ascitis and then death.

External appearance and on removal of skin :- Changes of oedema were found in the face and other parts of the body. Abdomen was

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distended due to accumulation of fluid in the abdomen. Rigor mortis was present in the muscles of head, neck and fore legs.

Mouth & Pharynx :- Nothing abnormal detected.

Nasal cavities :- N.A.D.

Larynx & Trachea :- N.A.D.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- Both lungs were congested and showed the changes of oedema. Parts of both lungs were stiff and fibrosed.

Pericardium & heart :- Masses of round worms were found in the right auricle, right ventricle and upper pulmonary arterial tree. These nematodes were slender, almost thread like, filarial parasites of about 25 to 30 cm long indistinguishable from dirofilaria immitis. The right side of the heart is extensively dilated and hypertrophied.

Peritoneal cavity :- Excessive fluid was present in peritoneal cavity indicating ascitis.

Spleen :- Spleen was congested.

Stomach & small intestine :- Mucosa of gastro-intestinal tract was congested.

Urinary organs :- Kidneys were oedematous.

Genital organs :- N.A.D.

Brain & spinal cord :- N.A.D.

Lymph nodes in general :- N.A.D.

Blood smears sent for microscopical examination :- Impression smears of moist parts incised lungs, heart, spleen, intestine and brain were prepared in clean glass slides and sent to the diagnostic laboratory for examination & report.

Diagnosis on above examination :- Death of bitch occured due to Heartworm (Filarial parasite) disease.

Remarks :- (1) Roundworms were collected from heart in 70% alcohol & sent to the laboratory for identification.

(2) Pieces of visceral organs were sent to laboratory in 10% formalin for histopathological examination.

Results :- Awaited from Diagnostic laboratory.

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Place, where P.M. examination was done :- Nawada (Bihar).

Date :- 19/01/97

Signature,

Designation of Autopsist

Note :- (1) This disease is transmitted by mosquito.

(2) Blood examination of all living dogs should be done for detection of microfilaria (Larva of filarial worms). For this, following techniques are done :-

(a) Examination of fresh blood smears. (b) Serum is separated and examined for microfilaria (c) Blood is filtered and filtrates of blood is examined or (d) Blood is centrifused and centrifugal sediment is examined for microfilaria. In fresh blood smear, microfilaria are found motile. The anterior end of microfilaria is bluntly rounded.

(3) In positive cases, treatment is done to eliminate adult worms and microfilaria, for which Anthiomaline, Benocide, Carbamyl syrup, Helmonil, Hetrazan, Mebex or Wormil can be given.

(19) DEATH DUE TO NODULE WORM DISEASE (OESOPAGOSTOMIASIS) IN SHEEP OR GOAT.

Report of Post-mortem Examination

P.M.No. 19/96 date 08/08/96.

Species :- Ovine (Sheep), Colour :- White, Sex :- Female, Age :- 4 months, Owner :- Dr. J.L.Vegad, Dean, Wright Town, Jabalpur (M.P.).

By whom sent for examination and reason, if any :- By owner, to know the cause of death.

Date and hour of death :- 07/08/96 at night.

Date and hour of P.M. Examination :- 10.45 A.M. on 08/08/96.

History :- As informed by owner, while forwarding dead sheep, the main symptoms were profuse diarrhoea, anaemia, emaciation, cachexia and prostration. The colour of the faeces was dark green colour containing mucous or blood. Within a few days, sheep had become weak debilated and showed humped back condition in which the hind legs were stiff and tail was usually held at an angle from the body.

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External appearance after removal of skin :- Carcass was highly emaciated. Conjunctivae of eyes were anaemic. Mucous membrane of whole body was anaemic. Subcutaneous fat was jelly like. Rigor mortis was present in head, neck, forelegs & trunk. Death appeared to have occurred about 12 hours back.

Mouth & Pharynx :- Nothing abnormal detected.

Nasal cavities :- Mucosa of nose was pale & anaemic.

Larynx & Trachea :- N.A.D.

Oesophagus :- Mucosa of oesophagus was anaemic.

Pleural cavity & lungs :- N.A.D.

Pericardium & heart :- Clotted blood was present in the auricles and ventricles of the heart.

Peritoneal cavity & liver :- N.A.D.

Spleen :- N.A.D.

Stomach & small intestine :- Several nodules were found in the mucosa of the intestine which gave intestine a nodular appearance. These nodules were raised or projected from serosal surface of the intestine. These nodules were hard & calcified. Small ulcers and haemorrhages were present in the mucosa of both large and small intestine. Several adult worms (Oesophagostomum sp.) were present in the lumen of caecum and colon. These nematodes were found free in the lumen of large intestine.

Urinary organs :- N.A.D.

Generative organs :- N.A.D.

Brain & spinal cord :- N.A.D.

Lymph nodes in general :- N.A.D.

Blood smears sent for microscopical examination :- Smears of liver, intestine, lungs & spleen were sent to the Diagnostic laboratory.

Diagnosis on above examination :- Symptoms and lesions suggest that death of sheep occurred due to oesophagostomiasis (Pimplygut).

Remarks :- (1) Adult round worms were collected in warm 70% alcohol & sent to the Diagnostic laboratory for identification.

(2) Small pieces of intestine, liver, heart & lungs were sent to in 10% formalin to the Diagnostic laboratory.

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Place, where P.M. examination was done :- Jabalpur (M.P.)

Date :- 08/08/96

Signature,

Designation of Autopsist

Note :- (1) Probenzimidazoles, Febantel, Levamisole, Phenothiazine and Piperazine are effective drugs for this disease.

(2) Stool examination of all young animals should be done to detect ova of nodules worms.

(3) Animals should be given nutritious diet and sufficient minerals with clean pasture.

(20) DEATH DUE TO KIDNEY WORM IN SWINE

Report of Post-mortem Examination

P.M.No. 20/96 date 18/10/96.

Species :- Swine (pig), Colour :- White, Sex :- Male, Age :- 2 years, Owner :- Sri A.G.P.Pillai, T.R. Nagar, Trichur (Kerala).

By whom sent for examination and reason, if any :- By owner, to know the cause of death.

Date and hour of death :- 17/10/96 at night.

Date and hour of P.M. Examination :- 9.45 A.M. on 18/10/96.

History :- Main symptoms were pain in abdomen with urinary troubles. There were complete obstruction of flow of urine, uremia & death.

External appearance & on removal of skin :- At places in skin of body, there was small nodules indicating penetration of larvae through these places.

Mouth, Pharynx, Larynx, Trachea :- N.A.D.

Nasal cavities :- N.A.D.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- Lungs were congested.

Pericardium & heart :- Clotted blood was found in heart.

Peritoneal cavity :- Lesions of peritonitis were found.

Liver :- Liver was very hard, granular, congested and fibrosed.

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Spleen :- Congested.

Stomach & small intestine :- Petechial haemorrhages were found in mucosa of stomach.

Urinary organs :- Adult round worms were found in the kidneys, ureter and perirenal fat. Wall of ureter was thickened due to formation of cysts. Lumen of ureter was obstructed. Changes of hydronephrosis in kidneys were found.

Generative organs :- N.A.D.

Brain & spinal cord :- N.A.D.

Lymph nodes in general :- N.A.D.

Blood smears sent for microscopical examination :- Impression smears of visceral organs were sent to the laboratory.

Diagnosis on the basis of above examination :- Kidney worm disease (Stephanurosis).

Remarks :- (1) Small pieces of kidneys, ureter, liver, heart, lungs and stomach were sent to Diagnostic laboratory in 10% formalin.

Results :- Awaited from laboratory.

Place, where P.M. examination was done :- Trichur (Kerala).

Date :- 18/10/96

Signature,

Designation of Autopsist

Note :- (1) Diagnosis of this disease is done by detecting ova in the urine or adult worms in renal pelvis or in the ureter during necropsy.

(2) Treatment is done with Fenbendazole, Ivermectin, Flubendazole & Levamisole.

(21) DEATH DUE TO GID (COENUROSIS) IN GOAT OR SHEEP.

Report of Post-mortem Examination

P.M.No. 21/97 date 28/02/97.

Species :- Caprine (She goat), Colour :- Black, Sex :- Female, Age:- 1.5 year, Owner :- Dr. P.K.R.Iyer, Gandhi Nagar, Madurai (Tamilnadu)

By whom sent for examination and reason, if any :- By owner, to know the cause of death.

Dr G Ram Babu

Date and hour of death :- 2 P.M. of 28/02/97

Date and hour of P.M. Examination :- 2.15 P.M. on 28/02/97.

History :- As reported by owner, there was disturbance of movement. She goat kept its head to one side and move in circle, easily frightened and jerky or staggering gate in the hind limbs. Other symptoms were grinding of teeth, salivation, loss of balance and convulsions. There was perforation of skull & on examination, the affected part yields on pressure.

External appearance and on removal of skin :- Carcass was emaciated and anaemic. Eyes were closed.

Mouth & Pharynx :- Nothing abnormal detected.

Nasal cavities :- Mucosa was pale.

Larynx & Trachea :- N.A.D.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- N.A.D.

Pericardium & heart :- Clotted blood was present in the heart.

Peritoneal cavity :- N.A.D.

Liver & Spleen :- N.A.D.

Stomach & small intestine :- N.A.D.

Urinary organs & Genital organs :- N.A.D.

Brain & spinal cord :- Meninges of brain showed the changes of congestion. Cysts were found in the brain lying in cavity surrounded by necrotic materials. These cysts was filled with clear fluid contained numerous head of scolices. These heads were visible through the thin walls of cyst as small white foci. Atrophy & perforation of skull in the areas of cysts were found.

Lymph nodes in general :- N.A.D.

Smears for microscopical examination :- No

Diagnosis on the basis of above examination :- Death of she goat occurred due to Gid (Staggers) disease.

Remarks :- (1) Pieces of brain, spinal cord, liver, lungs, heart & spleen were sent to the laboratory in 10% formalin for histopathological examination.

Results :- Awaited.

Place, where P.M. examination was done :- Mudarai (Tamilnadu).

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Date :- 28/02/97

Signature,

Designation of Autopsist

Note :- (1) Gid is caused by larval stage of Multiceps multiceps (Tapeworm). This larval stage is called as coenurus or bladder worm. This larval stage develops in intermediate host in brain & spinal cord of sheep & goat. This bladder worm is always ready for further development in the final host (dog) when it is ingested. Exact location of bladder worm (cyst) in sheep or goat is determined by neurosurgical examination such as postural and vision test. Intradermal skin test with 0.1 ml gid cyst fluid which is performed in the neck region for diagnosis. In positive cases, there is severe thickening at the site of injection in 24 to 48 hours.

The only method of treatment of Gid is removal of mature cysts surgically.

(22) DEATH DUE TO SPIROCERCOSIS (SPIRUROID INFECTION) IN DOG.

Report of Post-mortem Examination

P.M.No. 22/97 date 09/01/97.

Species :- Canine (Dog), Colour :- White with black patches, Sex :- Male, Age :- 5.5 years, Owner :- Sri Jitendra Singh, Panipat (Haryana).

By whom sent for examination and reason, if any :- By owner, to know the cause of death.

Date and hour of death :- 11 A.M. of 09/01/97

Date and hour of P.M. Examination :- 3.30 P.M. on 09/01/97.

History :- As reported by owner, the main symptoms were anaemia, emaciation, constant vomition, difficulty of swallowing food materials, loss of weight and weakness occasionally, red coloured round worms were passed throgh faeces. Death occurred due to emaciation and anaemia.

External appearance and on removal of skin :- Carcass was highly emaciated and anaemic. Eyes were pale, skin was rough and loose, muscles of whole body were anaemic & atrophied.

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Subcutaneous fat became jelly like. Lesions of coarse exostosis of ventral surface of bone of thoracic vertebrae were found.

Mouth & Pharynx :- Nothing abnormal detected.

Nasal cavities :- Mucosa was pale and anaemic.

Larynx & Trachea :- N.A.D.

Oesophagus :- Tumour like nodules were present on the wall of oesophagus. These nodules showed the presence of several red colour adult nematodes. These round worms were 55 to 70 mm long & found coiled in a spiral form. These worms were found protruding from small orifices from nodules.

Pleural cavity & lungs :- N.A.D.

Pericardium & heart :- Clotted blood was found in the heart.

Peritoneal cavity :- N.A.D.

Spleen :- N.A.D.

Stomach & intestine :- Mucosa of stomach was congested.

Urinary organs :- Left kidney showed the presence of numerous abscesses of different size. These nodules contained yellow coloured pus.

Genital organs :- N.A.D.

Brain & spinal cord :- N.A.D.

Lymph nodes in general :- N.A.D.

Blood smears for microscopical examination :- Impression smears of heart, lungs, spleen, nodules of oesophagus & aorta were prepared and sent to the laboratory.

Diagnosis :- Spirocercosis (Spiruroid worm infection).

Remarks :- Worms in 70% alcohol & pieces of visceral organs in 10% formalin were sent to the Diagnostic laboratory.

Results :- Awaited from laboratory.

Place, where P.M. examination was done :- Panipat (Haryana).

Date :- 09/01/97

Signature,

Designation of Autopsist

Note :- (1) This disease can be diagnosed on the basis of

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demonstration of embryonated eggs in the faeces or presence of worms expelled through vomition in diseased animals.

(2) Treatment is done with Disophenal, Piperazine or Mebendazole etc.

(23) DEATH DUE TO THEILERIASIS IN CATTLE.

Report of Post-mortem Examination

P.M.No. 23/96 date 24/08/96.

Species :- Bovine (Cow), Colour :- Black, Sex :- Female, Age :- 1.5 years, Owner :- Sri Sudhansu Ranjan, Mohamadpur, Besgusarai, (Bihar).

By whom sent for examination and reason, if any :- By owner, to know the disease due to which death has been taken place.

Date and hour of death :- 9.45 P.M. of 23/08/96

Date and hour of P.M. Examination :- 10 A.M. on 24/08/96.

History :- As reported by owner, the cow was ill since last one week with the following symptoms :- High rise of temperature, discharge from nose and eyes, emaciation, anaemia, bloody diarrhoea, enlarged prescapular lymph nodes & respiratory distress. Biopsy of prescapular lymph nodes & peripheral blood smears showed the presence of theileria parasites in blood cells & Koch's blue bodies (Schizonts) in the lymphocytes of lymph node.

External appearance :- Carcass was emaciated and anaemic. Rigor mortis was present in the whole body. Fluid was oozing from mouth. Eyes were pale. Subcutaneous fat became jelly like. There was subcutaneous and intramuscular oedema.

Mouth & Pharynx :- Pin point haemorrhages were present on free portion of tongue.

Nasal cavities :- Pale.

Larynx & Trachea :- N.A.D.

Pleural cavity & lungs :- Lungs were congested & haemorrhagic. Lungs were oedematous & emphysematous. Pleural cavity contained excess fluid.

Pericardium & heart :- Hydropericardium was present. Petechial haemorrhages were found in endocardium of left ventricle of heart & in coronary grooves.

Liver :- Liver was highly enlarged in size. Changes of haemorrhages & congestion were found in the liver. Petechial haemorrhages were found in gall bladder.

Spleen :- Spleen was enlarged in size and congested.

Stomach & intestine :- Petechial haemorrhages were present in the mucosa of abomasum. Several punched ulcers were found in the mucosa of abomasum surrounded by haemorrhagic zone.

Urinary organs :- White foci of different sizes were present on the surface of both kidneys. Cortex was congested.

Generative organs :- N.A.D.

Brain & spinal cord :- Focal haemorrhages were found in the brain.

Lymph nodes :- Lymph nodes particularly pre-scapular lymph nodes were highly enlarged and congested.

Blood smears, if prepared for microscopic examination :- Impression of incised parts of prescapular lymph nodes, liver, spleen, heart, abomasum & intestine were prepared on clean glass slides.

Diagnosis on the basis of above examination :- Cow died due to Theileriasis.

Remarks (State if viscera & tissue specimens sent for chemical, parasitological, bacterial & histopathological Examination) :- Pieces of liver, lungs, lymph nodes, spleen, heart, kidneys & intestine were sent in 10% formalin to Diagnostic laboratory.

Results :- Smears of prescapular lymph nodes were fixed in methanol & stained with Giemsa stain and examined. Several lymphocytes were enlarged & showed the presence of multinucleated organisms inside the cytoplasm of lymphocytes. These are schizonts & take blue colour. They are Koch's blue bodies and pathognomic for theileriasis.

Place, where P.M. examination was done :- Begusarai, (Bihar).

Date :- 24/08/96

Signature,

Designation of Autopsist

Advise :- (1) Blood smears & biopsy of prescapular lymph nodes of diseased cattle should be examined for theileria parasite.

(2) Theileriasis is transmitted by blood sucking ticks. Hence, control measures against ticks should be taken to make cattle free from ticks. The important acricides used against tiks are sumithion. Malathion, Toxophene, Lindane & Sevin etc.

(3) For better treatment, drug combination of antimalarial, antibiotics and antianaemic preparations are used in all clinical cases. Buparvaquone marketed as "Butalex" is found effective. Parvaquone, Berenil or Halaguginone alongwith hematinics & Belamyl or Livogen can be given. In anaemic patient, blood transfusion is given.

(24) DEATH DUE TO BABESIASIS IN COW.

Report of Post-mortem Examination

P.M.No. 24/96 date 29/08/96.

Species :- Bovine (Cow), Colour :- Black & White, Sex :- Female, Age :- 7 years, Owner :- Sri Shailendra Mohan Sinha, Advocate, Mohamadpur, Besgusarai, (Bihar).

By whom sent for examination and reason, if any :- By owner, to know the cause of death.

Date and hour of death :- 9 A.M. of 29/09/96

Date and hour of P.M. Examination :- 11 A.M. on 29/08/96.

History :- As reported by owner, said cow had shown the following symptoms before death :- First symptom was rise of body temperature. Other symptoms were grinding of teeth, loss of appetite, staggering gate, going down with their head twisted on one side or standing with their forehead pressed with a wall, discharge from eyes, Excessive salivation, anaemia, passed yellowish brown faeces and haemoglobinuria.

External appearance :- Rigor mortis was absent. Carcass was emaciated, anaemic and icteric. Conjunctivae of eyes were yellow colour. Subcutaneous and intramuscular connective tissue were oedematous and yellow colour. Subcutaneous fat was yellow & became jelly like.

Mouth & Pharynx :- N.A.D.

Nasal cavities :- Mucosa was icteric.

Larynx & Trachea :- N.A.D.

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Oesophagus :- N.A.D.

Pleural cavity & lungs :- N.A.D.

Pericardium & heart :- Clotted blood was found in the auricles and ventricles of heart.

Peritoneal cavity :- Peritoneal fluid was yellowish colour.

Liver :- Liver was enlarged in size and yellow brown colour. Gall bladder was distended with accumulated green colour bile.

Spleen :- Spleen was highly enlarged four to five times more than normal size. The parenchyma of spleen was soft and dark red.

Stomach & intestine :- N.A.D.

Urinary organs :- Kidneys were swollen & icteric. Urinary bladder showed the presence of red coloured urine.

Generative organs :- N.A.D.

Brain & spinal cord :- N.A.D.

Lymph nodes in general :- Mildly swollen & icteric.

Blood smears sent for Microscopical examination :- Impression smears of moist parts of incised liver, lungs, heart, spleen, intestine and lymph nodes were prepared and sent to the Diagnostic laboratory in 10% formalin for histopathological examination.

Diagnosis on the basis of above examination :- Cow died due to Theileriasis.

Results :- Awaited from Diagnostic laboratory.

Place, where P.M. examination was done :- Begusarai, (Bihar).

Date :- 29/08/96

Signature,

Designation of Autopsist

Advise :- (1) Blood of all diseased animals should be examined to detect this protozoa in red blood cells.

(2) This disease is transmitted by ticks, hence Babesiasis can be prevented by taking tick control measures to keep animals free from ticks. The important acricides are sumithion, sevin, lindane, Malathion, Toxophene.

(3) Diminazene aceturate, Imidocarb dipropionate, Amicarbalide.

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disethionate, Acridine derivatives, Quinuronium derivatives and Aromatic diamidines are effective drugs used in Babesiosis. Berenil (3.5 mg/kg) is very effective drug.

(25) DEATH DUE TO SURRA (TRYPANOSOMIASIS) IN CATTLE.

Report of Post-mortem Examination

P.M.No. 25/97 date 28/07/97.

Species :- Bovine (Cow), Colour :- White, Sex :- Female, Age :- 7 years, Owner :- Sri Nirmal Anshu Ranjan, Mohamadpur, Begusarai, (Bihar).

By whom sent for examination and reason, if any :- By owner, to know the cause death.

Date and hour of death :- 8 P.M. of 27/07/96

Date and hour of P.M. Examination :- 9 A.M. on 28/07/97.

History :- As reported by owner, said cow had shown the symptoms of shivering, dullness, sleepiness, staggering gate, wide open eyes, respiratory distress, muscular micturition, profuse salivation, coma and death within 12 hours. This animal was recently vaccinated against foot and Mouth disease.

External appearance & internal appearance after removal of skin :- Carcass was emaciated. Rigor mortis was present in whole body. Abdomen was distended with gas. Oedema was present in different parts of the body. Muscles were atrophied. Subcutaneous fat became jelly like. eyes were pale.

Mouth & Pharynx :- N.A.D.

Nasal cavities :- Mucosa of nostrils was anaemic.

Larynx & Trachea :- N.A.D.

Pleural cavity & lungs :- Parts of left lung was hyperaemic.

Pericardium & heart :- Clotted blood was present in auricles & ventricles of heart.

Peritoneal cavity :- Excess fluid was found.

Liver :- Liver was enlarged in size and petechial haemorrhages were present on the surface of liver.

Kidneys :- Both kidneys were highly enlarged in size. Petechial

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haemorrhages were seen on the cortical surface of kidneys.

Spleen :- Congested.

Stomach & intestine :- N.A.D.

Genital organs :- N.A.D.

Brain & spinal cord :- Meninges were congested and showed the changes of haemorrhages.

Lymph nodes in general :- N.A.D.

Blood smears, if sent for Microscopic examination :- Blood smears of incised parts of different organs were prepared on glass slides & sent to the diagnostic laboratory for examination.

Diagnosis on the basis of above examination :- Symptoms and lesions are suggestive for Surra (Trypanosomiasis).

Remarks (State if viscera & tissue specimen sent for examination):- Smali pieces of liver, lungs, heart, spleen, brain & lymph nodes were sent in 10% formalin to the diagnostic laboratory for examination & report.

Place, where P.M. examination was done :- Begusarai, Bihar).

Date :- 28/07/97

Signature,

Designation of Autopsist

Advise :- (1) Examination of blood smears of other diseased animals.

(2) This disease is transmitted by horse flies, hence it is necessary to take control measures against horse flies.

(3) Diminozene aceturate (Berenil), Suramin, isometamidium and quinapyramine are effective drugs for treatment of "Surra".

(26) DEATH DUE TO ANAPLASMOSIS IN CATTLE.

Report of Post-mortem Examination

P.M.No. 26/96 date 21/06/96.

Species :- Bovine (Cow), Colour :- Black & White, Sex :- Female, Age :- 8 years, Owner :- Gaurav Barial, Mathura-Kutir Par - Nawada, Nawada (Bihar).

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By whom sent for examination and reason, if any :- By owner, to know the cause of death.

Date and hour of death :- 6 A.M. of 21/06/96

Date and hour of P.M. Examination :- 8.30 A.M. on 21/06/96.

History :- As reported by owner, animal had shown important symptoms of rise of body temperature (105oF) emaciation, anaemia, icterus, rapid respiration, anorexia, conjunctivitis & excessive salivation, Said cow was pregnant but abortion occurred during course of this disease. Urine of cow was straw colour and icteric.

External appearance & internal appearance on removal of skin :- Carcass was emaciated. Eyes were icteric. skin was loose. Muscles were atrophied and anaemic subcutaneous fat was jelly like & yellow colour.

Mouth & Pharynx :- N.A.D.

Nasal cavities :- Anaemic.

Larynx & Trachea :- icteric:

Pleural cavity & lungs :- Both lungs were emphysematous.

Pericardium & heart :- Clotted blood was present in auricles & ventricles of heart. Heart was dilated.

Peritoneal cavity :- Excess fluid was present in the peritoneal cavity which was yellow colour.

Liver :- Liver was enlarged in size, round edges and yellow colour, gall bladder was distened with dark green colour viscid bile.

Spleen :- Spleen was greatly enlarged in size.

Stomach & intestine :- N.A.D.

Urinary organs :- Kidneys surface were yellow colour. Urinary bladder contained dark straw coloured urine.

Generative organs :- N.A.D.

Brain & spinal cord :- N.A.D.

Lymph nodes in general :- Lymph nodes were oedematous.

Blood smears sent for Microscopical examination :- Smears of liver, lungs, heart, spleen, intestine & lymph nodes were prepared and stained.

Diagnosis on the above examination :- Symptoms and lesions are

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suggestive for Anaplasmosis.

Remarks (State if viscera & tissues were collected for histopathological, bacterial, parasitological, chemical examination):- Small pieces of visceral organs were collected in 10% formalin for histopathological examination.

Place, where P.M. examination was done :- Nawada, (Bihar).

Date :- 21/06/96

Signature,

Designation of Autopsist

Note :- (1) Anaplasmosis is spread from animal to animal by vectors such as blood sucking ticks & biting flies (Tabanus sp.) or by use of unsterilised needles, knife and other instrument. Hence, control measures are taken for eradication of ticks and Tabanus. Sterilised instruments for dehorning, injection & surgical operation should be used for each animal to prevent spread of this disease.

(2) Treatment can be done with (i) Berenil (ii) Tetracycline (iii) Imidocarb or (iv) Amicarbalide. Supportive therapy with injection of Belamyle or Livogen is given for 3 weeks with nutritious feeding.

(3) Blood examination of all diseased animals should be done to detect Anaplasma in erythrocytes. Anaplasma appears as small spherical bodies, red to dark red or bluish purple colour located inside or on margin of red blood cells of affected animals stained by Giemsa stain. Sometimes, two organisms are located close to each other appearing as binary fission.

(27) DEATH DUE TO COCCIDIOSIS IN CALF.

Report of Post-mortem Examination

P.M.No. 27/95 date 03/07/95.

Species :- Bovine (Calf), Colour :- Black, Sex :- Female, Age :- 4 months, Owner :- Sri Sonu Barial, Mathura-Kutir, Par - Nawada, Nawada (Bihar).

By whom sent for examination and reason, if any :- By owner, to know the cause of death.

Date and hour of death :- 2 P.M. of 03/07/95

Date and hour of P.M. Examination :- 4 P.M. on 03/07/95.

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History :- As reported by owner, said calf shown the symptoms of mild fever followed by sudden onset of severe foul smelling diarrhoea. Faeces contained, mucous and blood, abdominal pain, rough coat, anorexia and straining during passing faeces. Dehydration occurred in 3 to 4 days with loss of appetite and weakness in legs.

External appearance and after removal of skin :- Carcass was emaciated. Eyes were pale. Tail and posterior part of the body soiled with blood mixed faeces.

Mouth & Pharynx, larynx & trachea :- N.A.D.

Pleural cavity & heart :- Clotted blood was found in the chambers of heart.

Pleural cavity & lungs :- N.A.D.

Pleural cavity, liver & spleen :- N.A.D.

Stomach & small intestine :- Mucosa of posterior part of small intestine was highly congested and haemorrhagic. Lumen of affected part of intestine was filled with blood tinged materials.

Large intestine :- Mucosae of ilium., caecum and colon were highly congested and haemorrhagic, Lumen of large intestine was filled with blood coloured materials.

Urinary organs :- N.A.D.

Generative organs :- N.A.D.

Brain & spinal cord :- N.A.D.

Lymph nodes in general :- Mesenteric lymph glands were oedematous.

Blood smears sent for Microscopical examination :- Smears of liver, lungs, spleen, small intestine, large intestine & mesenteric glands were prepared in glass slides.

Diagnosis on the basis of above examination :- Calf died due to coccidiosis.

Remarks :- Small pieces of large intestine , small intestine & mesenteric glands were collected in 10% formalin for histopathological examination.

Place, where P.M. examination was conducted :- Nawada, (Bihar).

Date :- 03/07/95

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Designation of Autopsist

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Advise :- Anticoccidial drugs should be given for prevention and control of coccidiosis in young calves. Monensin, Decoquine, Amprolium, Sulmet or Mepacrine hydrochloride can be used for this disease. Adult bovines do not show symptom of coccidiosis but remain carriers. Hence, stool examination of all other animals should be regularly done as routine.

(28) DEATH DUE TO LEPTOSPIROSIS IN CANINE.

Report of Post-mortem Examination

P.M.No. 28/97 date 14/08/97.

Species :- Canine (Dog), Colour :- Black, Sex :- Male, Age :- About 3 years, Owner :- R.S. ganai, 121, Sofi Hamam, Sopore (J&K).

By whom sent for examination and reason, if any :- By owner, to know the cause of death.

Date and hour of death :- 4 A.M. of 14/08/97

Date and hour of P.M. Examination :- 3 P.M. on 14/08/97.

History :- The main symptoms, shown by said dog before death were high rise of body temperature, off feed, dull, depressed difficulty in urination.

External appearance and on removal of skin :- Rigor mortis was present in the whole body. Carcass was highly eamaciated and anaemic, conjunctivae of both eyes were pale and anaemic. Ribs were prominent. Muscles were atrophied, pale & showed petechial haemorrhages.

Mouth & Pharynx :- Red colour fluid was oozing from mouth.

Nasal cavities :- Mucosa was pale.

Larynx & Trachea :- Mucosa of trachea was congested.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- Both lungs showed the presence of petechial and ecchymotic haemorrhages. Parts of both lungs were oedematous.

Pericardium & heart :- Clotted blood was found in the auricles and ventricles of heart. Cardiac muscles showed the presence of petechial haemorrhages.

Peritoneal cavity :- N.A.D.

Liver :- Liver was highly swollen, congested and become dark red colour. Liver was easy to cut and part bulges. Gall bladder was distended with bile.

Spleen :- It was slightly swollen.

Intestine & stomach :- Mucosa of intestine and stomach showed the presence of petechial haemorrhages.

Urinary organs :- Capsules of both kidneys were adherent to the

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cortical surface. White patches were present on the cortex. On incision, several white streaks were found extending from white patches of cortex to the medulla. Petechial haemorrhages were found on the cortex and medulla and on mucosa of urinary bladder.

Generative organs :- N.A.D.

Brain & spinal cord :- N.A.D.

Lymph nodes in general :- N.A.D.

Blood smears if sent for microscopical examination :- Impression smears of liver, lungs, spleen, kidneys, heart & intestine were prepared & sent to the laboratory.

Diagnosis on above examination :- The lesions are suggestive for leptospirosis.

Remarks :- Pieces of liver, lungs, spleen, heart, kidneys, intestine and stomach were collected in 10% formalin and sent to the laboratory for histopathological examination and report.

Place, where P.M. examination was done :- Sopore (J&K).

Date :- 14/08/97

Signature,

Designation of Autopsist

(29) DEATH DUE TO KETOSIS IN RUMINANTS (ACETONEMIA OF CATTLE).

Report of Post-mortem Examination

P.M.No. 29/97 date 01/08/97.

Species :- Bovine (Cow), Colour :- Black & White, Sex :- Female, Age :- 5 years, Owner :- Sri Prabhat Kumar, Engineer, "Mathura-Kutir", Par - Nawada, Nawada (Bihar).

By whom sent for examination and reason, if any :- By owner, to know the cause of death.

Date and hour of death :- 2.20 A.M. of 01/08/97

Date and hour of P.M. Examination :- 8.45 A.M. on 01/08/97.

History :- The said cow had shown the symptoms of anorexia, hypoglycemia, rapid loss of weight with dehydration, listlessness, incoordination and constipation. Ketone bodies were readily

detected by the odour of the expired air & voided urine. Clinical examination of blood & urine of cow, during illness, had shownketonemia, hypolycemia & Kitonuria. This dead cow was exotic breed and was high milk yielder. She had given birth of a she calf on 6-7-97. This was her fourth calving.

External appearance & on removal of skin :- Rigor-mortis was present in the head, neck, fore-legs and in the trunk. Conjunctivae of eyes were pale. Subcutaneous fat was jelly like. Watery fluid was oozing from mouth.

Mouth & Pharynx :- N.A.D.

Larynx & Trachea :- N.A.D.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- N.A.D.

Pericardium & heart :- Clotted blood was found in the auricles & ventricles of heart.

Peritoneal cavity :- Excess fluid was found in the peritoneal cavity.

Liver :- The most characteristic changes were seen in the liver. The colour of liver was distinctly bright yellow. It is greatly enlarged in size due to which boarders were rounded. Small pieces of liver were floating in water, probably due to the high fat content. The cut surface of the liver was greasy. Gall bladder was distended with accumulated bile.

Pituitary and Adrenal glands :- Pituitary gland and adrenal cortex were congested & mildly swollen.

Spleen :- N.A.D.

Stomach & small intestine :- N.A.D.

Urinary organs :- Nothing abnormal detected in kidneys but urine of urinary bladder gave odour of excess kitone bodies.

Generative organs :- N.A.D.

Brain & spinal cord :- N.A.D.

Lymph nodes in general :- N.A.D.

Blood smears if sent to laboratory :- Impression smears of liver, lungs, spleen, heart, pituitary, adrenals & lymph nodes were sent to the diagnostic laboratory.

Diagnosis on the basis of above lesions :- Symptoms, clinical

picture and lesions are suggestive that death has been taken place due to ketosis (Acetonemia).

Remarks :- Small pieces of liver, adrenal, pituitary, kidneys, heart and lymph nodes were sent to the diagnostic laboratory in 10% formal saline solution.

Results :- Awaited from diagnostic laboratory.

Place, where P.M. examination was done :- Nawada (Bihar).

Date :- 01/08/97

Signature,

Designation of Autopsist

Note :- Ketosis in ruminants is a disease due to impaired metabolism of carbohydrate and volatile acids. Ketosis is characterised by ketonemia, hypoglycemia and low level of hepatic glycogen. This condition occurs most commonly during first month of lactation between 20 to 30 days after calving. Cows of any age can be affected but mostly occurs at the fourth calving. Two forms, namely, wasting form and nervous form of ketosis occur in bovine, but wasting form is most common.

Treatment :- Repeated intravenous injections of 500 ml of a 50% solution of glucose (dextrose) effects marked improvement in most cases.

Anabolic steroids are also found very effective in ketosis in dairy cow. 60 mg and 120 mg of trenbolone accetate are effective as single injection, Similarly, 30 mg trenbolone acetate daily for 1 week accompanied by oral propylene glycol (100 ml twice daily) also gives good result.

Chloral hydrate with initial dose of 30 gms followed by 7 gms twice daily for several days also cures the disease. 'Treatment is supplemented by administration of vitamin B 12 and cobalt.

Control :- After calving, cow should not be satrved nor be over fat. Concentrate ration should be increased gradually as production increases with exercise daily. Ration must contain adequate cobalt, phosphorous and iodine. Blood glucose estimations and urine examination for ketones should be done in second and sixth week after parturition to detect developing of ketosis.

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(30) DEATH DUE TO HYPOMAGNESEMIC TETANY (LACTATION OR GRASS TETANY) IN COW.

Report of Post-mortem Examination

P.M.No. 30/97 date 03/08/97.

Species :- Bovine (Cow), Colour :- Black, Sex :- Female, Age :- 4 years 5 month, Owner :- Sri Pranay Kumar Sinha, Law Student, "Mathura-Kutir", Par - Nawada, Nawada (Bihar).

By whom sent for examination and reason, if any :- By owner, to know the cause of death.

Date and hour of death :- 7.15 A.M. of 03/08/97

Date and hour of P.M. Examination :- 3.30 P.M. on 03/08/97.

History :- The said animal was lactating cow, had given birth of a she calf on 14-04-97. This cow was grazing grass in the field & suddenly, ceased to graze, adopted unusual alertness, appeared uncomfortable with twitching of muscles & ears. There was continuous bellowing & freezing galloping. The gait had become staggering & fallen on the ground. There was opisthotonus, nystagmus, champing of the jaws, twitching of muscles, tetany or spasms of legs and oozing of froathy fluid from mouth. Body temperature was 104 to 105°C with excelerated rates of pulse, respiration and heart. Death occurred within one hour.

External appearance and on removal of skin :- Rigor-mortis was present in the whole body. Eyes were pale. Muscles were contracted & hard to touch. Subcutaneous tissues were haemorrhagic.

Mouth & Pharynx :- Froathy fluid was oozing from mouth.

Larynx & Trachea :- N.A.D.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- Changes of emphysema were found in both lungs in which parts of lungs were swollen containing excess air. Haemorrhages were seen in the pleura.

Pericardium & heart :- Agonal haemorrhages were found in the pericardium & endocardium. Clotted blood was present in auricles & ventricles of heart. Pericardium sac contained excess red coloured fluid. There was slightly raised light coloured plaques, a few millimeter in diameter were present on the intimal layer & large

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blood vessels indicating calcification.

Peritoneal cavity :- It contained excess fluid.

Liver :- N.A.D.

Stomach & small intestine :- Mucosae of intestine and rumen were haemorrhagic & congested. There was contraction of segments of abomasum and intestine.

Generative organs :- N.A.D.

Brain & spinal cord :- N.A.D.

Lymph nodes in general :- N.A.D.

Blood smears, if sent to laboratory :- Blood smears of heart, lungs, spleen, liver, & intestine were sent to laboratory.

Diagnosis on the basis of above lesions :- Symptoms and postmortem lesions suggest that said cow died due to hypomagnesemic tetany (Lactation or Grass tetany).

Remarks :- Small pieces of liver, heart, abomasum, spleen, intestine and lymph nodes were collected in 10% formalin saline solution & sent to the diagnostic laboratory for histopathological examination.

Results :- Awaited from laboratory.

Place, where P.M. examination was done :- Nawada (Bihar).

Date :- 03/08/97

Signature,

Designation of Autopsist

Note :- Lactation tetany is highly fatal disease of all species of ruminants but occurs mostly in lactating cows. This disease is characterised by hypomagnesemia, hypocalcemia, chronic muscular spasm, convulsions and death due to respiratory failure. The main cause of this disease is eating diet deficient in magnesium occurs when they graze grass dominant of lush grass or young green grass or heavily fertilized pasture. Course of this disease is very short (one to two hours). Serum magnesium falls from normal level of 2.0 mg to 0.7 mg/100 ml of blood.

Treatment :- The most effective treatment is immediate administration of combined calcium and magnesium. Preparation of the dose of 500 ml of a solution containing 25% calcium

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borogluconate and 5% magnesium hypophosphite in cattle & 50 ml in sheep is given intravenously.

Control :- This diseas is prevented by giving magnesium salts in diet to the cows during danger period.

(31) DEATH DUE TO "DOWNER - COW" SYNDROME.

Report of Post-mortem Examination

P.M.No. 31/97 date 06/09/97.

Species :- Bovine (Cow), Colour :- White & Black, Sex :- Female, Age :- 6 years, Owner :- Sri Anjani Kumar Barial, Advocate, "Mathura-Kutir", Par - Nawada, Nawada (Bihar).

By whom sent for examination and reason, if any :- By owner, to know the cause of death.

Date and hour of death :- 10 A.M. of 06/09/97

Date and hour of P.M. Examination :- 3 P.M. on 06/09/97.

History :- As reported by owner, the said cow had suffered with "Milk-fever". Inspite of treatment with calcium borogluconate, cow remained down position on sternum. Cow had made attempt to rise but was unable to extend their hind limbs completely. Cow had tried to lift its hindquarter more than a few centimeters off the ground but again fallen to the ground. It was resulted into "Crowling" or "Creeping" alongwith the ground with both hind limbs kept as a partially flexed position. Cow had prefer to remain in lateral recumbancy with head drown back. Urine of cow showed the presence of albumin. Death occurred on sixth day of illness.

External appearance and internal appearance after removal of skin :- Rigor-mortis was present in the head, neck & forelegs. Abrasions and ulcers with blood clots were found on skin of different parts of body. Haemorrhages and necrotic lesions were found in the medial thigh muscles and around the hip joint.

Mouth & Pharynx :- N.A.D.

Larynx & Trachea :- N.A.D.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- N.A.D.

Pericardium & heart :- Heart was dilated and empty. Myocardium was degenerated.

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Peritoneal cavity :- It contained excess clear fluid.

Liver :- Liver was swollen, easy to cut indicating fatty degeneration.

Spleen :- N.A.D.

Stomach & intestine :- Mucosae were anaemic.

Urinary organs :- Kidneys were swollen & enlarged in size.

Brain & spinal cord :- N.A.D.

Blood smears, if sent for microscopic examination :- Smears of muscles, heart, lungs, adrenal, spleen, intestine and lymph nodes were prepared in clean glass slide and sent to the laboratory.

Diagnosis on the basis of above examination :- The said cow died due to "Downer-Cow" syndrome.

Remarks :- Small pieces of different visceral organs were preserved in 10% formalin and sent to the laboratory for histopathological examination.

Place, where P.M. examination was done :- Nawada (Bihar).

Date :- 06/09/97

Signature,

Designation of Autopsist

Note :- The most aspect of treatment of Downer cow syndrome is to provide comfortable bedding and movement of the cow from one side to other side several times, to allow the free flow of blood in the muscles. It is necessary to massage the muscles of body particularly of both legs to restore muscular activity of affected legs. The affected cow should not be kept on slippery ground surface because cow makes attempt to rise on slippery ground.

The solution containing calcium, potassium, magnesium and phosphorus can be given to ailing cow. Corticosteroid stimulant tonics, vitamin-E and selenium are also used. Fluid therapy is given to those cows which are unable to drink water in normal amount. Cow will recover fully and will stand normally in two to three days, if proper care with bedding are provided. Prognosis is poor for those remain recumbant even after 7 days.

(32) DEATH DUE TO PYELONEPHRITIS IN CATTLE.

Report of Post-mortem Examination

P.M.No. 32/96 date 17/08/96.

Species :- Bovine (Cow), Colour :- White, Sex :- Female, Age :- 7 years, Owner :- Sri Manoj Kumar Barial, "Mathura-Kutir", Par - Nawada, Nawada (Bihar).

By whom sent for examination and reason, if any :- By owner, to know the cause of death.

Date and hour of death :- 5 A.M. of 17/08/96

Date and hour of P.M. Examination :- 9 A.M. on 17/08/96.

History :- The said cow showed the symptoms of renal disfunction. Examination of urine showed the presence of pus cells and arythrocytes (Pyuria and hematuria).

External appearance and on removal of skin :- Emaciated and anaemic.

Mouth & Pharynx :- N.A.D.

Larynx & Trachea :- N.A.D.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- N.A.D.

Pericardium & heart :- Clotted blood was found in the heart.

Peritoneal cavity :- Excess fluid was present.

Liver :- N.A.D.

Spleen :- N.A.D.

Stomach & small intestine :- N.A.D.

Urinary organs :- Both kidneys were highly enlarged in size. The capsule was easily removed. Cortical surface of kidneys showed grayish white foci. Upon incision of kidneys, lesions appeared at the tips of papillae projecting into minor calyces. The renal calyces were dilated with slimy bloody exudate containing numerous small irregular concentrations. Ulceration of pelvis and papillae were found. Streaks of gray necrotic radiated through the medulla to cortex. Mucosa of ureter was thickened and pale in colour indicating ureteritis. Bladder showed the presence of red colour urine. Mucosa of bladder & ureter was haemorrhagic and oedematous.

Generative organs :- N.A.D.

Brain & spinal cord :- N.A.D.

Lymph nodes in general :- N.A.D.

Blood smears if sent for microscopic examination :- Impression smears of lesions of kidneys, heart, lungs, spleen and intestine were prepared.

Diagnosis on above examination :- Pyelonephritis.

Remarks :- Small pieces of kidneys, liver, heart, lungs, spleen, intestine, ureter and bladder were collected in 10% formalin and sent to the laboratory for histopathological examination.

Results :- Smears were stained by Gram - weigert stain. Smears of kidneys showed numerous gram - positive and cocoid to bacillary forms of bacteria suggesting corynebacterium infection.

Place, where P.M. examination was done :- Nawada (Bihar).

Date :- 17/08/96

Signature,

Designation of Autopsist

Note :- In suppurative nephritis, it is essential to isolate causative bacteria from urine & then sensitivity to standard antibiotics and sulfonamide is determined.

Antibiotic treatment is usually done for 7 to 10 days with administration of parenteral enzymes. Bacteriological examination of urine should be done after completion of treatment to ensure that the infection has been completely controlled.

(33) DEATH DUE TO HAEMORRHAGIC GASTRO-ENTERITIS IN LEOPARD.

Report of Post-mortem Examination

P.M.No. 33/96 date 11/06/96.

Species :- Leopard, Colour :- Spotted, Sex :- Male, Age :- 6 years, Owner :- Zoological park, Mumbai (M.S.)

By whom sent for examination and reason, if any :- By Director, Zoological park, Mumbai to know the cause of death.

Date and hour of death :- 2.30 A.M. of 11/06/96

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Date and hour of P.M. Examination :- 3 P.M. on 11/06/96.

History :- As reported, total of six male leopard died within 8 days with symptoms of bloody diarrhea, red colour urine, sub-normal temperature and laboured respiration.

External appearance and on removal of skin :- Conjunctivae of eyes were red and congested. Haemorrhages were present on the muscles of thoracic region.

Mouth & Pharynx :- N.A.D.

Nasal cavities :- N.A.D.

Larynx & Trachea :- N.A.D.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- Both lungs were congested & haemorrhagic.

Liver :- N.A.D.

Stomach & intestine :- Stomach showed the presence of unclotted blood. Lumen of intestine contained blood mixed ingesta. Mucosa of stomach & intestine were haemorrhagic.

Urinary organs :- N.A.D.

Generative organs :- N.A.D.

Brain & spinal cord :- N.A.D.

Lymph nodes in general :- N.A.D.

Blood smears if prepared :- Smears of liver, heart, stomach, intestine, spleen & kidneys were prepared and sent to the laboratory.

Diagnosis on above examination :- Haemorrhagic gastroenteritis.

Remarks :- Small pieces of liver, heart, lungs, spleen, intestine & stomach were collected in 10% formalin and sent to the laboratory for examination and report.

Place, where P.M. examination was done :- Mumbai.

Date :- 11/06/96

Signature,

Designation of Autopsist

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(34) DEATH DUE TO NEW-CASTLE DISEASE OR RANIKHET DISEASE.

Report of Post-mortem Examination

P.M.No. 34/97 date 03/03/97.

Species :- Avian (Poultry), Colour :- White, Sex :- Male, Age :- 2 months, Owner :- Sri Himanshu Ranjan, Mohamadpur, Begusarai (Bihar).

By whom sent for examination and reason, if any :- By owner, to know the cause of death.

Date and hour of death :- Morning of 03/03/97

Date and hour of P.M. Examination :- 9.45 A.M. on 03/03/97.

History :- As reported, many chickens have died within one week. Symptoms shown by those chickens were watery greenish diarrhea, muscular tremer, gasping inhalation through half opened beak, rales and cracking sound were heard during respiration, respiratory distress, restlessness or depression. Some birds showed nervous symptoms such as incoordination, twisting of head and paralysis. One of the attendant suffers with conjunctivitis, probably infected from these diseased chickens.

External appearance and internal appearance after removal of skin :- Vent was soiled with faecal materials. Muscles were dry. Eyes were closed.

Mouth & Pharynx :- N.A.D.

Nasal cavities :- N.A.D.

Larynx & Trachea :- Catarrhal or serous exudate was present in the larynx and trachea.

Oesophagus :- Crop was found distended with grayish brown sour smelling fluid.

Pleural cavity & lungs :- Both lungs were pneumonic & consolidated. Exudate was oozing on incision of lungs. Airsac was thickened.

Pericardium & heart :- Clotted blood was present in the heart.

Peritoneal cavity :- N.A.D.

Liver :- N.A.D.

Spleen :- Spleen was swollen.

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Gizzard, Proventriculous & intestine :- Petechial haemorrhages were present in the mucosa of proventriculous & a few in mucosa of Gizzard. Petechial haemorrhages & necrotic changes were present in the caecal tonsil. Mild haemorrhages were also seen in the mucosa of duodenum, jejunum and ilium.

Smears if sent for microscopic examination :- Touch smears of incisid moist part of livers, lungs, spleen, heart, Gizzard, proventriculous and intestine were prepared in clean glass slides and sent to the diagnostic laboratory for examination and report.

Diagnosis on the basis of above examination :- Ranikhet disease (R.D).

Remarks (State if viscera or tissue specimens sent for chemical, bacterial, parasitological or histopathological exam.) :- Small pieces of liver, lungs, spleen, heart, proventriculous, caecal tonsil, Gizzard and intestine were collected in 10% formalin and sent to the diagnostic laboratory for examination.

Place, where P.M. examination was done :- Begusarai, (Bihar)

Date :- 03/03/97

Signature,

Designation of Autopsist

Note :- It is a viral disease, hence no treatment is effective. It is advised that all one day chicks should be vaccinated with Lasota or F-1 strain vaccine by intranasal or intraocular route. They should be revaccinated with R.D.Vaccine after 2 months by intramuscular injection.

(35) DEATH DUE TO MAREK'S DISEASE IN POULTRY.

Report of Post-mortem Examination

P.M.No. 35/95 date 15/05/95.

Species :- Poultry, Colour :- Red, Sex :- Female, Age :- 3 months, Owner :- Sri Ashokanand Prasad. P. Dayal Road, Barmasia, B.Deoghar, (Bihar).

By whom sent for examination and reasons, if any :- By owner, to know the cause of death.

Date and hour of death :- Night of 14/05/95

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Date and hour of P.M. Examination :- 8.30 A.M. of 15/05/95

History :- As reported by owner, several chickens of his poultry farm have died. Affected chickens shown the symptoms of paralysis of extremities or drooping of wings, lameness, with one leg stretched forward & other leg stretched backward, severe depression, emaciation, weight loss, anorexia with or without blindness and incoordination.

External appearance and internal appearance on removal of skin :- Eyes were grayish opaque, drooping of wings & emaciated. Muscles were pale, atrophied & dried. Several whitish nodules were found on the skin of body.

Sciatic nerves and brachial plexus were oedematous, enlarged & thickened. Loss of striation with gray or yellow discolourisation of these peripheral nerves were found.

Mouth & Pharynx :- N.A.D.

Nasal cavities :- N.A.D.

Larynx & Trachea :- N.A.D.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- N.A.D.

Pericardium & heart :- Clotted blood was found in the heart.

Peritoneal cavity :- N.A.D.

Liver :- Liver was enlarged. Surface of the liver was granular appearance.

Spleen :- N.A.D.

Gizzard, Proventriculous & intestine :- Proventriculous was thickened.

Urinary organs :- Tumourous growths were found in the ovary having cauliflower like appearance.

Brain & Spinal cord :- Peripheral nerves including sciatic nerves were oedematous, swollen, grayish in colour with loss of striations.

Blood smears for microscopical examination :- Impression smears of liver, lungs, heart, ovary, nerves & skin were prepared.

Diagnosis on above examination :- Marek's disease.

Remarks (State if tissues were sent for chemical, bacterial, parasitological and histopathological exam.) :- Small pieces of liver,

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lungs, spleen, ovary,, sciatic nerve and skin were collected in 10% formalin & sent to the laboratory for examination & report.

Results :- Impression smears were stained & examined & found negative for pathogenic organisms. .

Place, where P.M. examination was done :- B. Deoghar (Bihar)

Date :- 05/05/95

Signature,

Designation of Autopsist

Note :- There is no specific treatment against this disease. It is better to vaccinate all chicks against this disease by merek's disease vaccine within first three weeks. It is a viral disease.

(36) DEATH DUE TO LYMPHOID LEUCOSIS (A.L.C) IN POULTRY.

Report of Post-mortem Examination

P.M.No. 36/97 date 24/08/97.

Species :- Avian (Poultry), Colour :- Red, Sex :- Female, Age :- 6 months, Owner :- Sri Anup Kumar Barial owner of Seema Talkie, Par - Nawada, Nawada (Bihar).

By whom sent for examination and reasons, if any :- By owner, to know the cause of death.

Date and hour of death :- Night of 23/08/96

Date and hour of P.M. Examination :- 9.30 A.M. of 24/08/96

History :- As reported, several birds of said farm died with symptoms of emaciation, off feed, weakness, anaemia, dehydration, cyanotic comb, enlarged abdomen with lethargy. Four dead birds were sent for post-mortem examination for diagnosis of disease.

External appearance and internal appearance after removal of skin :- Carcass was emaciated, pale conjunctivae of eyes, enlarged & distended abdomen. Comb was cyanotic. Muscles of body were pale and atrophied.

Mouth & Pharynx :- N.A.D.

Nasal cavities :- Mucosa was anaemic.

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Oesophagus :- Mucosa of oesophagus was pale.

Pleural cavity & lungs :- N.A.D.

Pericardium & heart :- Clotted blood was found in the heart.

Peritoneal cavity :- N.A.D.

Liver :- Liver was highly enlarged 5 to 6 times more in size than normal. Tumourous growths were present on the surface of the liver.

Spleen :- Spleen was highly enlarged in size.

Gizzard, Proventriculous & intestine :- N.A.D.

Urinary organs :- Kidneys showed the presence of tumourous growths.

Brain & Spinal cord :- N.A.D.

Blood smears for microscopical examination :- Touch smears of liver, lungs, heart, intestine were made and sent to the laboratory for examination and report.

Diagnosis on above examination :- Avian leucosis complex.

Remarks (State if tissues were sent for chemical, bacterial, parasitological and histopathological exam.) :- Pieces of liver, heart, spleen, kidneys, lungs and intestine were collected in 10% formalin & sent to diagnostic laboratory for examination & report.

Results :- No.

Place, where P.M. examination was done :- Nawada.

Date :- 24/08/96

Signature,

Designation of Autopsist

Note :- Since, lymphoid leucosis (A.L.C) is a neoplastic disease caused by virus, there is no specific method of treating the disease. This disease can be prevented in the farm by genetical control by breeding programme to develop resistant strain of poultry. Proper hygenic condition is to be maintained in the farm & use of insecticide to kill beetle (Alphitobious diaperinus).

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(37) DEATH DUE TO GUM-BORO DISEASE IN CHICKENS.

Report of Post-mortem Examination

P.M.No. 37/96 date 28/09/96.

Species :- Avian (Poultry), Colour :- White, Sex :- Male, Age :- 6 months, Owner :- Sri J.Langstang, Mynthong, Jaintia Mills, Barapani (Meghalaya).

By whom sent for examination and reasons, if any :- By owner, to know the cause of death.

Date and hour of death :- Night of 27/09/96

Date and hour of P.M. Examination :- 9 A.M. of 28/09/96

History :- As reported by owner, about 20% chicks of age group of 3 to 6 week had died with symptoms of anorexia & tendency in the infected birds to pick at their own vent. The diseased birds had soiled feathers, whitish or watery diarrhoea, depression, ruffled feathers, marked trembling and prostration. These birds showed dehydration and sub-normal temperature in the terminal stages of the disease. Almost all chickens had suffered with this disease. Mortality starts from 3rd day after infection, peack on 5th day and stopped on 7th day of infection. A few dead chickens were sent for examination to diagnose the disease.

External appearance and internal appearance on removal of skin :- Emaciated & dehydrated with darkened discolourisation of the pectoral muscles. Haemorrhages in patches were present in thigh & pectoral muscles. Haemorrhages were also found in a few chickens in patches of different sizes in the skin of abdominal region of the body.

Mouth & Pharynx :- N.A.D.

Nasal cavities :- N.A.D.

Larynx & trachea :- N.A.D.

Pleural cavity & lungs :- N.A.D.

Pericardium & heart :- Clotted blood was present in the heart.

Peritoneal cavity :- N.A.D.

Liver :- N.A.D.

Spleen :- Spleen was slightly enlarged in size, sticky & small gray foci were found uniformally on the surface.

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Gizzard, Proventriculous & intestine :- Lumen of the intestine showed increased mucous.

Bursa of fabricius :- Bursa was either enlarged in size or reduced in size. The internal striations of the bursa were prominent & had cream coloured appearance but atrophied bursa became gray colour.

Generative organs :- N.A.D.

Urinary organs :- Kidneys were enlarged, the tubules were clearly evident due to distention with accumulated urates with distended ureters.

Blood smears sent for microscopical examination :- Touch smears of liver, lung, spleen, heart, thigh muscles, kidneys & intestine were sent to the diagnostic laboratory.

Diagnosis on the basis of above examination :- Gumboro disease.

Remarks :- Small pieces of all visceral organs were collected in 10% formalin and sent to the diagnostic laboratory for examination.

Place, where P.M. examination was done :- Barapani (Meghalaya).

Date :- 28/09/96

Signature,

Designation of Autopsist

Note :- Gum-boro disease or I.B.D. is viral disease. Hence, no treatment is effective. This disease is prevented by vaccinating chicks of 1 to 5 days old with I.B.D. - D/78 (Intervet). Killed vaccine can be used by oral or intraocular route. I.B.D. vaccine & I.B.D. inactivated vaccine can be given by 1/m or s/c with levamisole as immunomodulator.

(38) DEATH DUE TO EGG DROP SYNDROME IN POULTRY.

Report of Post-mortem Examination

P.M.No. 38/97 date 16/08/97.

Species :- Avian (Hen), Colour :- White, Age :- 2 year, Owner :- Sri Sujeet Kumar Sinha, C.M.R.I., Dhanbad Bihar.

By whom sent for examination and reasons, if any :- By owner, to know the cause of death.

Date and hour of death :- 2 P.M. on 16/08/97

Date and hour of P.M. Examination :- 4 P.M. of 16/08/97

History :- As reported there was general decrease of egg production of the poultry farm. Laying hens were almost normal health but they laid defective eggs. The eggs were thin shell, soft shelled or even shell less. The thin shelled egg had a rough sand paper like appearance or granular roughing. Several layers were affected with this disease but only one hen died.

External appearance and on removal of skin :- Nothing abnormal detected.

Mouth & Pharynx :- N.A.D.

Larynx & trachea :- N.A.D.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- N.A.D.

Pericardium & heart :- Clotted blood was found in the heart chambers.

Peritoneal cavity :- N.A.D.

Liver :- N.A.D.

Spleen :- Spleen was highly enlarged.

Urinary Organs :- N.A.D.

Generative organs :- Inactive ovaries and atrophied oviducts were found. Oedema of uterine folds and presence of exudate in the pouch shell were important lesions. Eggs in the various stages of development were found.

Brain & Spinal cord :- N.A.D.

Blood smears, if sent for microscopical examination :- Blood smears of liver, lung, spleen, heart & pouch sell were prepared and sent to the laboratory.

Diagnosis on the basis of above examination :- Above lesions and history of symptoms diagnosed as egg-drop syndrome (EDS).

Remarks :- Pieces of liver, lungs, spleen, heart, ovary and intestine were collected in 10% formalin and sent to the laboratory.

Place, where P.M. examination was done :- Dhanbad (Bihar).

Date :- 16/08/96

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Signature,

Designation of Autopsist

Note :- The disease is a viral disease of laying hens causing 40% decrease of egg production. There is defective egg production. Diagnosis is based on symptoms and lesions. Haemaglutination inhibition (H.I.) test is a test of choice to diagnose it.

Treatment is not successful. Vitamin, increase in calcium or protein in ration do not produce beneficial effect in infected birds. Vaccination is done to control endemic EDS. The vaccine is injected intramuscular in the birds between 14 to 18 weeks of age. Chlorinated water can be given to sick birds.

(39) DEATH DUE TO FOWL POX IN CHICKEN.

Report of Post-mortem Examination

P.M.No. 39/97 date 03/03/97.

Species :- Avian (Poultry), Colour :- Red, Sex :- Female, Age :- 4.5 months, Owner :- Mr. Manish S/o Sri K.B.Prasad, C-21, K.C.M. Kolihan Nagar (Jhunjhunu).

By whom sent for examination and reasons, if any :- By owner, to diagnose the disease.

Date and hour of death :- 7 A.M. on 03/03/97

Date and hour of P.M. Examination :- 9.45 A.M. of 03/03/97

History :- As reported by owner, the signs of diseased chickens were yellowish adherent deposit in mouth alongwith watery or mucopurulent discharge running from eyes and nose. Warts like cutaneous lesions were found on the head and other parts like legs, feet and vent. Many chicken died.

External appearance and internal appearance after removal of skin :- The eye lids were swollen & stick to each other due to ocular discharge. Yellow colour nodules and scabs were present on feather less parts of the body including eyes, ears, comb and wattle. On presure on nose, fluid was oozing from nostrils.

Mouth & Pharynx :- Yellow, cheese and necrotic diptheritic membrane was present in the mouth or pharynx.

Nasal cavities :- Soft, yellow diptheritic ulcers in mucosa were formed when cheesy deposits were removed from mucosa of nasal

cavities.

Larynx & trachea :- N.A.D.

Pleural cavity & lungs :- N.A.D.

Pericardium & heart :- Clotted blood was found in the heart.

Peritoneal cavity :- N.A.D.

Liver :- N.A.D.

Spleen :- N.A.D.

Gizzard, proventriculous & intestine :- N.A.D.

Urinary Organs :- N.A.D.

Genital organs :- N.A.D.

Brain & Spinal cord :- N.A.D.

Blood smears, if sent for microscopic examination :- Impression smears of moist portions of incised liver, heart, lungs, spleen and warts like lesions were prepared in clean glass slides & sent to the laboratory.

Diagnosis on above examination :- Fowl pox.

Remarks (state if viseera sent for chemical, bacterial, parasitological & histopathological examination) :- Small pieces of liver, lungs, heart, comb, spleen & liver were collected in 10% formalin & sent to the diagnostic laboratory.

Results :- Smears were negative for pathogenic bacteria.

Place, where P.M. examination was conducted :- Kolihan Nagar (Rajasthan).

Date :- 03/03/97

Signature,

Designation of Autopsist

Note :- There is no specific treatment of fowl pox. Control methods are reliable steps to prevent this disease. Fowl pox vaccine is given to chicks at the age of six weeks by cutaneous sacrifications. Chicks under six weeks of age are given pigeon pox vaccine by feather follicle method. Live attenuated fowl pox strain vaccine is used for adults. All diseased birds should be destroyed & burnt. Crates & houses should be disinfected.

(40) DEATH DUE TO AVIAN ENCEPHALOMYELITIS (EPEDIMIC TREMER)

Report of Post-mortem Examination

P.M.No. 40/97 date 14/03/97.

Species :- Avian (Poultry), Colour :- White, Sex :- Male, Age :- 4 weeks, Owner:- City poultry Farm, Hyderabad (A.P.)

By whom sent for examination and reasons, if any :- By Mr. Z. Ansari, Manager Poultry Farm, Hyderabad.

Date and hour of death :- Evening of 13/03/97

Date and hour of P.M. Examination :- 8 A.M. of 14/03/97

History :- As reported, about 20% young chickens have died within 10 days with symptoms of dull expression of eyes progressive ataxia and incoordination. Affected chicks refused to move or walk on their hock. There was regular tremer of head and neck. The ataxic signs usually appeared before tremer. They usually sat on their haunched or fallen to one side. A few dead chicks were sent for examination to diagnose the disease.

External appearance :- N.A.D.

Mouth & nasal cavities :- N.A.D.

Nasal cavities :- N.A.D.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- N.A.D.

Pericardium & heart :- Clotted blood was found in heart.

Peritoneal cavity :- N.A.D.

Liver :- N.A.D.

Spleen :- N.A.D.

Proventriculous :- There were whitish areas, found in the muscularis of proventriculous.

Gizzard & intestine :- N.A.D.

Generative organs :- N.A.D.

Brain & Spinal cord :- There was lumbo-sacral enlargement of the spinal cord.

Blood smears sent for microscopical examination :- Impression smears of brain, spinal cord, proventriculous, heart and lung were

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sent to the diagnostic lab.

Diagnosis on above examination :- Symptoms and above lesions are suggestive for Avain encephalomyelitis.

Remarks (State if viscera and specimens etc sent for chemical, bacterial, Parasitological & histopathological examination) :- Small pieces of different visceral organs were sent in 10% formalin to the diagnostic laboratory.

Results :- Awaited.

Place, where P.M. examination was conducted :- Hyderabad (A.P).

Date :- 14/03/97

Signature,

Designation of Autopsist

Note :- There is no specific treatment of this viral disease. The adult birds remain carriers rendering control programme difficult in hatchery. All chickens should be vaccinated using live breeze dried vaccine.

(41) DEATH DUE TO BACILLARY WHITE DIARRHOEA OR PULLORUM DISEASE IN POULTRY.

Report of Post-mortem Examination

P.M.No. 41/97 date 20/03/97.

Species :- Avian (Poultry), Colour :- White, Sex :- Female, Age :- Two weeks, Owner :- Private Poultry Farm, Vellore.

By whom sent for examination and reasons, if any :- Manager of Farm, to know the cause of death.

Date and hour of death :- Morning of 20/03/97

Date and hour of P.M. Examination :- 10.30 A.M. on 20/03/97

History :- There was occurrance of death of embryos before hatching or death of chickens during first day of hatching. Surviving chickens showed the symptoms of laboured breathing & diarrhoea.

External appearance and on removal of skin :- Chicks were emaciated. Vent was soiled with faecal material.

Mouth & Pharynx :- N.A.D.

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Nasal cavities :- Fluid was found in the nasal cavities.

Larynx & Trachea :- N.A.D.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- Both lungs were congested. Several yellowish nodules were present on the lungs parenchyma.

Pericardium & heart :- Necrotic nedules were present on the walls of heart.

Peritoneal cavity :- N.A.D.

Liver :- Liver was enlarged in size and mottled. White spots were found in liver of some chickens.

Spleen :- N.A.D.

Gizzard & intestine :- A few necrotic nodules were present on the wall of gizzard. Some chickens of 3 to 4 days old contained unabsorbed yolk. Some chickens showed the lesions of enterities or typhitis. Caeca were distended with semisolid cheesy casts.

Urinary organs :- N.A.D.

Generative organs :- N.A.D.

Brain & Spinal cord :- N.A.D.

Blood smears, if sent for microscopic examination :- Impression smears of liver, heart, spleen, lungs and caeca were prepared & sent to the diagnostic laboratory for examination and report.

Diagnosis on above examination :- Above lesions are suggestive for pullorum disease.

Remarks (State if viscera and tissue specimens sent for chemical, bacterial, parasitological & histopathological examination) :- Pieces of visceral organs were collected in 10% formalin and sent to the diagnostic laboratory.

Place, where P.M. examination was conducted :- Vellore (T.N).

Date :- 20/03/97

Signature,

Designation of Autopsist

Note :- Infected adult hens laid irregular shaped eggs. The egg may be round, golden, yellow in colour, angular, flattened or misshapen & some are pedunculated. Infected cocks showed the changes of

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orchitis.

Poultry farm is advised to detect salmonella infection in poultry by using simple method of its detection such as "Plate Agglutination test". It is better to cull all infected & positive chicks & dispose them properly to avoid health hazard to human consumers. No drugs or combination of drugs have been found effective. Drugs like Neftin (Furazolidone) can be given to infected chickens for 10 days. It is bacterial disease.

(42) DEATH DUE TO FOWL TYPHOID IN POULTRY.

Report of Post-mortem Examination

P.M.No. 42/97 date 02/02/97.

Species :- Avian (Poultry), Colour :- White, Sex :- Male, Age :- Adult, Owner :- K.G. Poultry Farm, Bhagalpur (Bihar).

By whom sent for examination and reasons, if any :- By owner of farm, Bhagalpur to know the cause of death.

Date and hour of death :- Morning of 02/02/97.

Date and hour of P.M. Examination :- 1 P.M. on 02/02/97

History :- Several death in chicks after hatching, poor growth, weakness and respiratory distress were symptoms in birds. Affected birds also showed the signs of loss of appetite, anaemia, emaciation, high rise of body temperature and poor coagulation of blood.

External appearance and on removal of skin :- Birds were anaemic & emaciated. Mucous membrane & serous memberane of whole body were pale and anaemic. Muscles of the body were pale atrophied & dry. Cyanotic changes were seen in combs & wattles in some of the layers.

Mouth & Pharynx :- N.A.D.

Nasal cavities :- Mucosa was pale.

Larynx & Trachea :- Exudate was found in the trachea.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- Both lungs were congested.

Peritoneal cavity :- N.A.D.

Liver :- Liver is enlarged in size. Surface of the liver showed

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numerous green colour necrotic foci.

Spleen :- Spleen was swollen. Several abscesses were present on the surface of spleen. These abscesses contained pus.

Gizzard & intestine :- Yellowish, white foci were present in the mucosa of Gizzard & bands of haemorrhages were found in the mucosa of proventriculous.

Urinary organs :- Kidneys were swollen & showed the presence of abscesses containing pus.

Generative organs :- Haemorrhagic misshaped or discoloured ova were found in many layers.

Brain & Spinal cord :- N.A.D.

Microscopic examination :- Impression smears of liver, heart and abscesses of spleen and kidneys were prepared & sent to diagnostic laboratory for examination and report.

Diagnosis on above examination :- Above lesions are suggestive for Fowl typhoid.

Remarks (State if viscera and tissue specimens sent for chemical, bacterial, parasitic & histopathological examination) :- Small pieces of liver, kidneys, spleen, heart, were collected in 10% formalin and sent to the diagnostic laboratory for examination and report.

Results :- Awaited.

Place, where P.M. examination was conducted :- Bhagalpur, (Bihar).

Date :- 02/02/97

Signature,

Designation of Autopsist

Note :- Treatment of Fowl typhoid is done with Furazolidone or with furadentin given with feed or water. Diseased birds should be culled. It is bacterial disease.

(43) DEATH DUE TO FOWL CHOLERA (AVIAN PASTEURELLOSIS) IN POULTRY.

Report of Post-mortem Examination

P.M.No. 43/96 date 18/04/96.

Species :- Avian (Poultry), Colour :- White, Sex :- Female, Age :- 4 months, Owner :- Sri Nitya Nand Prasad, Purandaha, B.Deoghar (Bihar).

By whom sent for examination and reasons, if any :- By owner, to know the cause of death.

Date and hour of death :- Night of 17/04/96

Date and hour of P.M. Examination :- 11 A.M. on 18/04/96

History :- As reported by owner, several birds were ill with dull, depressed & restless. Blue colourisation of comb with discharges from nose were noticed. Some birds showed bloody diarrhoea. Wattle became oedematous. Joints of diseased birds were swollen causing lameness. Heavy mortality occurred within 3 to 4 days.

External appearance and on removal of skin :- Eyes were congested, wattles were swollen & oedematous. Vent was soiled with reddish excreta. Tibio-tarsal or metapharyngeal joints were found swollen, hard & tense in several birds. Fluid was oozing from nose on pressure. Comb & wattle were congested.

Mouth & Pharynx :- N.A.D.

Nasal cavities :- Mucous fluid was found in the nasal cavity.

Larynx & Trachea :- Froathy exudate was present in the lumen of Trachea.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- Both lungs were congested. Lungs of some birds showed the changes of haemorrhagic or fibrinous pneumonia.

Heart :- Petechial haemorrhages were found on epicardium along coronary groove.

Peritoneal cavity :- Excess fluid was found in the peritoneal cavity.

Liver :- Surface of liver showed the presence of necrotic foci, In some birds, liver was found enlarged in size.

Spleen :- N.A.D. or Congested.

Gizzard, proventriculous & intestine :- N.A.D.

Urinary organs :- Kidneys were congested.

Generative organs :- N.A.D.

Brain & Spinal cord :- N.A.D.

Microscopic examination :- Smears of heart, liver, lungs, spleen

were prepared.

Diagnosis on above examination :- Lesions are suggestive for Fowl Cholera.

Remarks (State if viscera and specimens sent for chemical, bacterial, parasitic & histopathological examination) :- Small pieces of visceral organs including liver, lungs, heart, spleen & kidneys were collected in 10% formalin and sent to diagnostic laboratory for examination and report.

Results :- Blood smears of liver, heart, spleen, lungs & kidneys were stained by leishman's staining methods. Bipolar organisms indistinguishable to Pasteurella were detected.

Place, where P.M. examination was conducted :- B. Deoghar, (Bihar). Date :- 18/04/96

Signature,

Designation of Autopsist

Note :- Similar postmortem lesions were found in Turkey died due to fowl typhoid. Sulphamezathin or sulmet were found very effective. It is a bacterial diseases.

(44) DEATH DUE TO FOWL CHOLERA IN TURKEY

Report of Post-mortem Examination

P.M.No. 44/94 date 17/08/94.

Species :- Avian (Turkey), Colour :- White, Sex :- Female, Age :- 8 months, Owner :- Government House, Jaipur.

By whom sent for examination and reasons, if any :- Supervisor, Government House, Jaipur, to know the cause of death.

Date and hour of death :- At different time of 17/08/94

Date and hour of P.M. Examination :- 11.15 A.M. on 17/08/94

History :- As reported, these birds were passing white to pinkish excreta. Body temperature was 108oF. They were unable to stand on legs & were lying on one side of the body. Birds were dull and depressed with heavy mortality. Postmortem examinations of ten birds were done.

External appearance and on removal of skin :- Cyanosis in the neck, head and wattles. The vent was soiled with chalky materials.

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The muscles were dry some what sticky.

Mouth & Pharynx :- N.A.D.

Nasal cavities :- There was slight nasal exudate.

Larynx & Trachea :- N.A.D.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- Lungs were congested.

Heart :- Heart was empty. There was sub-epicardial haemorrhages.

Peritoneal cavity :-

Liver :- The liver was congested. Gall bladder was distended with bile. There was greyish white patches. The blood was oozing from cut surface of liver.

Spleen :- The spleen was enlarged and congested.

Stomach & intestine :- The serosa of intestine was congested. Mucosa of intestine was highly congested. Lumen of intestine showed the presence of red colour ingesta. Clocal mucosa was cedematous & was covered with chalky white materials.

Urinary organs :- N.A.D.

Generative organs :- N.A.D.

Brain & Spinal cord :- Meninges were slightly congested.

Blood smears prepared :- Smears of lungs, liver, spleen & intestine were prepared in clean slides and stained with grams staining technique.

Diagnosis on above examination :- The above lesions are suggestive for Fowl Cholera.

Remarks :- Small pieces of different visceral organs were collected in 10% formalin and sent to the disease investigation laboratory for histopathological examination.

Results :- Smears showed the presence of several bipolar organisms indistinguishable of pasteurella spp.

Place, where P.M. examination was conducted :- Jaipur (Rajasthan).

Signature,

Designation of Autopsist

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Note :- Sulphamezathin or sulmet were found very effective. It is bacterial diseases.

(45) DEATH DUE TO TUBERCULOSIS IN POULTRY.

Report of Post-mortem Examination

P.M.No. 45/96 date 16/12/96.

Species :- Avian (Poultry), Colour :- Black, Sex :- Female, Age :- 1.5 years, Owner :- Sri A.K.Dhakal C/o Sri Toniyt, Siyari, Gangtok.

By whom sent for examination and reasons, if any :- By owner, to know the cause of death.

Date and hour of death :- 8 A.M. of 16/12/96

Date and hour of P.M. Examination :- 11.15 A.M. on 16/12/96

History :- As reported by owner, the said poultry shown the symptoms of emaciation, anaemia, loss of weight, anaemia and diarrhoea before death.

Exter appearance at internal appearance after removal of skin :- The dead poultry was highly emaciated with pale conjunctivae. Muscles were anaemic & atrophied.

Mouth & Pharynx :- N.A.D.

Nasal cavities :- Mucosa was anaemic.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- Lungs were pneumonic showing the changes of consolidation & contained froathy exudate.

Heart :- Clotted blood was found in the heart.

Peritoneal cavity :- Excess fluid was present.

Liver :- Several white or yellow coloured nodules of various sizes were present in the liver. These nodules contained caseous materials. Liver was highly enlarged.

Spleen :- Spleen was enlarged in size and showed the presence of nodules containing caseous materials.

Gizzard, proventriculous & intestine :- Serosa of the intestine showed the presence of several raised caseous tumour like nodules of different sizes. Mucosa of intestine showed the presence of ulcers beneath these nodules.

Urinary organs :- Kidneys were pale.

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Generative organs :- N.A.D.

Brain & Spinal cord :- N.A.D.

Blood smears for microscopical examination :- Touch smears of incised parts of nodules of liver, spleen and intestine were prepared.

Diagnosis on the basis of above examination :- Avian tuberculosis.

Remarks (State if viscera and specimens sent for chemical, bacterial, parasitological & histopathological examination) :- Pieces of spleen, liver, intestine containing nodules, lungs & heart were collected & preserved in 10% formalin and sent to diagnostic laboratory.

Results :- Smears of nodules of liver, spleen & intestine were stained by Z.N. carbol fuchsin technique. These smears showed the presence of acid fast organisms indistinguishable to Mycobacterium tuberculosis.

Place, where P.M. examination was conducted :- Gangtok.

Date :- 16/12/96

Signature,

Designation of Autopsist

Note :- T.B. is a bacterial disease. Treatment is not economical. All birds should be subjected to tuberculin test & the reactors should be eliminated and incinerated and premises should be disinfected.

(46) DEATH DUE TO ASPERGILLOSIS (BROODER PNEUMONIA) IN BIRDS.

Report of Post-mortem Examination

P.M.No. 46/97 date 25/03/97

Species :- Avian (Chicken), Colour :- White, Sex :- Female, Age :- One month, Owner :- Town poultry farm, Nagpur.

By whom sent for examination and reasons, if any :- Manager, Town poultry farm, Nagpur.

Date and hour of death :- Night of 24/03/97

Date and hour of P.M. Examination :- 11 A.M. on 25/03/97

History :- There was high morbidity & mortality in young chickens

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with main symptoms of high temperature, gasping and repid breathing loss of appetite and foetid diarrhoea. Some chickens showed nervous symptoms. White diarrhoea was the important symptoms found in diseased chickens. Five dead chickens were sent for P.M.examination.

External appearance and on removal of skin :- Vent was soiled with foetid materials. Chicks were emaciated with pale mucous membrane. Yellow scaly spots were found in some parts of skin of some chickens. Eyes showed changes of keratitis. Muscles were anaemic & dry.

Mouth & Pharynx :- N.A.D.

Nasal cavities :- Mucosa was found in nasal cavities.

Larynx & Trachea :- Cream colour exudate was present in the trachea.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- Both lungs were highly congested and consolidated. On incision of lungs, cream colour exudate was present. The serous membrane of air sac became thickened. Nodules of different sizes were found in lung parenchyma of several birds.

Pericardium & heart :- Clotted blood was found in the heart.

Peritoneal cavity :- N.A.D.

Liver :- Slightly swollen.

Spleen :- N.A.D.

Proventriculous & Gizzard :- N.A.D.

Small & large intestine :- N.A.D.

Kidneys :- N.A.D.

Brain & Spinal cord :- N.A.D.

Smears if sent for microscopical examination :- Impression smears of liver, heart, spleen, intestine were prepared and sent to diagnostic laboratory for examination & report.

Diagnosis on above examination :- Lesions are suggestive for Aspergillosis.

Remarks (State if viscera and specimens sent for chemical, bacterial, parasitological & histopathological examinations) :- Pieces of lungs, heart, spleen and liver were collected in 10%

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formalin and sent to diagnostic laboratory for examination & report.

Results :- Awaited.

Place, where P.M. examination was conducted :- Nagpur (M.S.)

Date :- 25/03/97

Signature,

Designation of Autopsist

Note :- This disease can be controlled & prevented by avoidance moldy liter & feeds. No treatment is effected. It is fungal disease.

(47) DEATH DUE TO SPIROCHEATOSIS IN POULTRY.

Report of Post-mortem Examination

P.M.No. 47/97 date 04/04/97

Species :- Avian (Poultry), Colour :- Black, Sex :- Female, Age :- 4 months, Owner :- Sri S.L.Behre, wright town, Jabalpur (M.P).

By whom sent for examination and reasons, if any :- By owner, to know the cause of death.

Date and hour of death :- 2 P.M. on 04/04/97

Date and hour of P.M. Examination :- 4 P.M. on 04/04/97

History :- As reported, there was heavy mortality in this poultry farm. Diseased birds showed the symptoms of droopiness, depression, off feeding, cyanosis of head, ruffled feathers, rise of body temperature and greenish diarrhoea before death. A few dead birds were sent for autopsy,

External appearance and internal appearance after removal of skin :- Cyanosis of head, anaemia, emaciation and pale muscles.

Mouth & Pharynx :- N.A.D.

Nasal cavities :- N.A.D.

Larynx & Trachea :- N.A.D.

Pleural cavity & lungs :- Lungs were congested.

Pericardium & heart :- Clotted blood was found in heart.

Peritoneal cavity :- N.A.D.

Liver :- Liver was swollen and enlarged in size. Surface of the liver showed haemorrhages & necrotic areas.

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Spleen :- Spleen was highly enlarged in size. Surface of the spleen was mottled with ecchymoses or haemorrhages.

Gizzard, Proventriculous & Intestine :- Lumen of intestine was congested & showed the changes of mucoid enteritis.

Urinary organs :- Kidneys were pale & enlarged in size, petechial haemorrhages were found in the cortex of kidneys.

Generative organs :- Congestion and haemorrhages were present in the ovaries.

Blood smears sent for microscopical examination :- Touch smears of moist parts of incised organs were prepared in cleaned glass slides & sent to the diagnostic laboratory for examination & report.

Diagnosis on above examination :- Spirocheatosis.

Remarks (State if viscera and specimens sent for chemical, bacterial, histopathological examination) :- Small pieces of liver, lungs, spleen, heart, kidneys and intestine were sent to the diagnostic laboratory in 10% formalin.

Results :-

Note :- Blood smears of diseased living birds were prepared on cleaned glass slides and stained. On examination, spirochaetes were detected in these stained blood films.

Place, where P.M. examination was conducted :- Jabalpur (M.P).

Date :- 04/04/97

Signature,

Designation of Autopsist

Note :- Pencillin is a drug of choice and can be given in the dose of 5,000 to 10,000 unit/kg. body wt. one injection is generally sufficient. Pronapane, cryst-4 or Terramycin can be given for 3 days. Recovered birds are immune. Formalin killed vaccine can be given in a dose of 1 ml subcutaneously at 8 to 10 weeks of age. A tick (Argas persicus) is its vector & transmit the disease, Hence, ticks control in birds is very important step to prevent the spread of this disease. The birds infected with larval ticks should be dipped in 0.5% malathion.

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(48) DEATH DUE TO VITAMIN - A DEFICIENCY IN POULTRY.

Report of Post-mortem Examination

P.M.No. 48/96 date 17/07/96

Species :- Poultry, Colour :- White & Black, Sex :- Female, Age :- 3 to 6 months, Owner :- Md. Kalimuddin, Manager, Poultry farm, Bangalore.

Date and hour of death :- Night of 16/07/96

Date and hour of P.M. Examination :- 10 A.M. on 17/07/96

History :- As reported by manager of poultry farm, several birds were either ill or died. The symptoms were emaciation, weakness, nasal discharge, swelling of face, conjunctivitis and watery discharge from nostrils & eyes. In adult, there was decrease in egg production. Eggs showed reddish spots. Nervous symptoms were also seen in affected chickens.

External appearance and on removal of skin :- Birds were emaciated, conjunctivae of eyes were congested. On pressure, fluid was oozing from nostrils. Eyes of some birds were closed due to presence of caseous materials. Some birds showed swollen joints.

Mouth & Pharynx :- White postules of 1 to 2 mm diameter were found in the mouth & pharynx. Ulcers were present in the pharynx.

Nasal cavities :- Mucous fluid was found in the nasal cavities. Mucosa was thickened.

Larynx & Trachea :- Mucosa of trachea was congested and thickened.

Pleural cavity & lungs :- N.A.D.

Pericardium & heart :- Chalk like materials were found on the surface of heart. Clotted blood was present in the heart.

Liver :- N.A.D.

Spleen :- N.A.D.

Gizzard & Intestine :- N.A.D.

Urinary organs :- Chalk like materials were found deposited on kidneys.

Generative organs :- N.A.D.

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Brain and spinal cord :- N.A.D.

Lymph node :- N.A.D.

Blood smears for microscopic examination :- Smears of liver, heart, nasal cavities, oesophagus & lungs were prepared.

Diagnosis on the basis of above examination :- Death occurred due to Vitamin-A deficiency.

Remarks :- Pieces of liver, lungs, spleen and heart were collected in 10% formalin and sent to the diagnostic laboratory.

Results :- Smears of liver, nasal cavities, oesophagus, heart and lungs were stained and examined. They were found negative for any organism.

Place, where P.M. was done :- Bangalore.

Date :- 17/07/96

Signature,

Designation of Autopsist

Note :- Manager of the poultry farm was advised to give vitamin-A in excess with feed to all ailing birds. It is a deficiency disease.

(49) DEATH DUE TO VITAMIN-E DEFICIENCY IN CHICKENS.

Report of Post-mortem Examination

P.M.No. 49/96 date 02/12/96

Species :- Poultry, Colour :- White, Sex :- Male, Age :- 20 days, Owner :- Mr. Akshit Ranjan S/o Sri Divyanshu Ranjan, Mohamadpur, Begusarai (Bihar).

By Whome sent for Examination & reson if any :- By owner, to know the cause of death.

Date and hour of death :- Night of 01/12/96

Date and hour of P.M. Examination :- 9 A.M. on 02/12/96

History :- As reported by owner, chickens were ill showing the symptoms of ataxia, retraction by back-ward & foreward of head, oedema of sub-cutaneous tissue containg green or blue colour fluid located at breast or leg muscles, locomotion disturbance or inability to stand on legs. Several chickens die with those signs.

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External appearance and on removal of skin :- Oedema anotaining fluid was found in the muscles of breast and legs. Muscles of some chickens showed white grey or yellow foci & streaks ran parallel with fibres. These muscles were dry, firmer & appeared as if it was cooked.

Mouth & Pharynx :- N.A.D.

Nasal cavities :- N.A.D.

Larynx & Trachea :- N.A.D.

Pleural cavity & lungs :- Excess fluid was found in the pleural cavity.

Pericardium & heart :- Clotted blood was found in the heart.

Peritoneal cavity :- N.A.D.

Liver :- N.A.D.

Spleen :- N.A.D.

Gizzard, Proventriculous & Intestine :- Necrotic changes of Gizzard musculature were present in two chickens.

Urinary organs :- N.A.D.

Generative organs :- Testis of some birds were degenerated.

Brain and spinal cord :- Some chickens showed necrotic foci on white matter of cerebrum & cerebellum. These foci were surrounded by haemorrhages. The convolution was lost due to softening of carebellum.

Blood smears for microscopic examination :- Impression smears of liver, lungs, spleen, brain, heart & affected muscles were prepared on clean glass slides.

Diagnosis on above examination :- Death of these chickens occurred due to Encephalomalacia, Exudative diathysis and muscular distrophy caused by Vitamin-E deficiency.

Remarks :- (State if viscera & specimen etc sent for chemical, bacterial, parasitological & histopathological Examination) :- Pieces of liver, lungs, spleen, Gizzard, heart and affected muscles were collected in 10% formalin and sent to diagnostic laboratory for examination & report.

Results :- Impression smears of liver, lungs, spleen, brain, heart and muscles were stained by Leishmans stains & examined. They were found negative for pathogenic organisms.

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Place, where P.M. was done :- Begusarai, (Bihar).

Date :- 02/12/96

Signature,

Designation of Autopsist

Note :- Owner was advised to supplement enough Vitamin-E with selenium in ration. It is deficiency disease.

(50) DEATH DUE TO EGG DROP SYNDROME (E.D.S) IN POULTRY.

Report of Post-mortem Examination

P.M.No. 50/97 date 01/04/97

Species :- Avian (Poultry), Colour :- White, Sex :- Female, Age :- 1.5 years, Owner :- Sri K.B.Prasad, Deputy Manager, (Mines), Kolihan Nagar (Jhunjhunu), Rajasthan.

Date and hour of death :- 2 P.M. on 01/04/97

Date and hour of P.M. Examination :- 3 P.M. on 01/04/97

By Whome sent for Examination & reson if any :- By owner, to know the cause of death.

History :- As reported by owner, there was reduction in production of egg in the layers of his farm. Abnormal eggs were laid by infected birds and loss of colour of eggs, soft or thin shelled or even shell less eggs were produced. These thin shelled eggs had a rough sand paper like appearance. Two dead birds were sent for post-mortem examination.

External appearance and internal appearance after removal of skin :- N.A.D.

Mouth, Pharynx, Nasal cavities, Larynx & Trachea :- N.A.D.

Pleural cavity & lungs :- N.A.D.

Pericardium & heart :- Clotted blood was found in the heart.

Peritoneal cavity, liver, gizzard and intestine :- N.A.D.

Urinary organs :- N.A.D.

Genital organs :- Ovaries and oviducts were atrophied. Uterine folds were oedematous and exudate was found in pouch shell.

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Eggs were found of various stages. There was distorsion of pouch shell gland laying abnornmal shelled eggs.

Spleen :- Spleen was highly enlarged.

Brain and spinal cord :- N.A.D.

Blood smears :- Smears of different organs were prepared in clean glass slides & sent to the diagnostic laboratory.

Diagnosis on above examination :- Egg drop syndrome.

Remarks :- (State if tissue specimens sent for chemical, bacterial, histopathological examination) :- Pieces of ovary, oviduct uterine fold, liver, lungs, spleen and heart were sent to the diagnostic laboratory in 10% formalin.

Place, where P.M. done :- Kolihan Nagar (Rajasthan).

Date :- 01/04/97

Signature,

Designation of Autopsist

Note :- It is a viral disease. So the treatment is not successful. Hence, it is advised that vaccination should be done to control the endemic of egg drop syndrome. The vaccine is given intramuscular injection in birds between 14 and 18 weeks of age. Chlorinated water is given in diseased birds.

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Technique of Writing Post-mortem Report

Suppose, a white colour, 16 years old bullock(Brand no.20/77) of Govt. Cattle farm, Patna was brought for post-mortem examination to know the cause of death. As per forwarding letter and clinical history of the animal, said bullock was weak, dehydrated and suffering with diarrhoea. and died at 6 A.M. on 20.12.93.

Suppose, P.M. examination was conducted on 20.12.93 at 4 P.M. Externally, said bullock was found emaciated, conjunctivae of eyes were pale, skin was loose. Rigor mortis was present in head and neck.

On removal of skin, muscle was pale and atrophied. Sucutaneous fat had become jelly like. On internal examination , liver was swollen, gall bladder contained accumulated bile. Mucosae of small intestine were highly congested. Numerous round worms were found in the small intestine. Injesta of small intestine was blood tinged. Auricle and ventricle of heart showed the presence of clotted blood. Report of P.M. examination of said animal is given below.

POST MORTEM REPORT NO-1

Dated 20.12.93

Species: Bovine (Bullock), Colour:White, Sex:Male, Age:16 years.

Owner: Govt. Cattle, Farm, Patna. Residence:Patna(Brand No. 20/77

By whom sent for examination : Officer Incharge, Govt. Cattle farm, Patna.

and reasons, if any: To ascertain the cause of death.

Date & hour of (A) Death: 6 A.M. on 20.12.93

(B) P.M. Exam. : 4 P.M. on 20.12.93

Clinical History: Bullock was weak, dehydrated and suffering with diarrhoea. Treatment was done but died.

External appearance and on removal of skin : Rigor - mortis was present in head and neck, emaciated, conjunctivea were pale, skin was loose.

Mouth and Pharynx:- Nothing abnormal detected (N.A.D.)

Nasal cavities:- N.A.D.

Larynx and trachea:- N.A.D.

Oesophagus:- N.A.D.

Pleural cavity & Lungs: - N.A.D.

Pericardium and heart :- Clotted blood was found in auricle and ventricles of heart.

Peritoneal cavity:-

Liver :- Liver was swollen.

Gall Bladder:- Gall bladder was distended with accumulated bile.

Spleen:- N.A.D.

Stomach & small intestine:- Mucosae of small intestine was highly congested. Numerous round worms were found in the lumen of small intestine. Blood tinged enjesta was present inside the intestine.

Urinary organs:- N.A.D.

Generative Organs:- N.A.D

Brain & spinal cord:- N.A.D.

Lymph glands in general :- N.A.D.

Blood smears sent for : Microscopical examination:- Impression smears were prepared from cut part of liver, intestine heart, lungs, spleen and lymph nodes and sent to the laboratory.

Diagnosis on above examination:-Parasitic enteritis associated with hepatitis.

Remarks : small pieces of liver, intestine, lungs, heart. lymph nodes were preserved in 10% formal saline and sent to diagnostic laboratory for examination and report.

Results of Microscopical examination : Awaited.

Place, where P.M. examination was made:- Patna.

Date :20.12.1993.

Signature of autopsist,

Designation.

(51) POISONING CASE OF A COW

Write down the P.M. report & give diagnosis.

A case was intituted at Dinapur police station vide police case no. 101/91 by Sri R. Prasad of Patna that his black colour cow, aged 10 years was poisoned to death by some person. Death occured at 11 A.M. on 7.1.91 & P.M. was conducted at 5 P.M.on 7.1.91. Police had made requst for P.M. examination.

The following changes were seen during P.M. examination:-

Eyes were pale. Rigor mortis was present in hind limbs. Abdomen was swollen.

Lungs were congested. Heart showed the presence of clotted blood, liver was swollen & pale.

Mucosae of small intestine & stomach were highly congested. Lumen of intestine showed the presence of red coloured injesta.

REPORT ON POST-MORTEM EXAMINATION

P.M. No.51 dt. 7.1.91.

Species : Bovine, Colour : Black, Sex : Female, Age : 10 years.

Owner : Sri R. Prasad, Residence : Vide Dinapur P.S. case no 101/92.

By whom sent for examination & reasons, if any : Dinapur Police station case no.- 101/92, To know the cause of death.

Date & hour of Death - 11 A.M. of 7.1.91

P.M. Exam. 51 P.M. on 7.1.91

History - Suspected for poisoning

External appearance and on removal of skin (describe, contusions etc.) : Eyes were pale, Rigor mortis was present in hind limbs. Abdomen was swollan with accumulated gas.

Mouth and pharynx: - NAD (Nothing abnormal detected)

Nasal cavities:- NAD

Larynx and Trachea :- Trachea Contained fluid.

Oesophagus:- NAD

Pleural cavity & Lungs:- Both lungs were congested.

Pericardium and heart:- Heart showed the presence of clotted blood.

Peritoneal cavity :-

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Liver:- It was swollen and pale

Spleen :- N.A.D.

Stomach & small intenstine :- Mucosae of small intestine & rumen were highly conjested. Lumen of intestine showed the presence of red coloured injesta

Generative organs :- NAD

Brain & spinal cord :- NAD

Lymph glands in general :- NAD

Blood smears if sent for Microscopical examination :-

Diagnosis on above examination :- Gastritis, enteritis associated with hepatitis.

Remarks (State if viscera and specimens etc. sent for chemical, bacteriological, histopathological and parasitological examination) : Pieces of liver, kidneys, instestinal loop and injesta of intestine and rumen were collected in saturated solution of salts and sent to Forensic laboratory for chemical examination and report.

Results of Chemical, Bacteriological Parasitological and Histopathological examination. :- Awaited

Place where P.M. exaination was made :- at Patna.

Date 7.1.91

Signature and Designation

of Autopsist

(52) POISONING CASE OF PIG

Write down the P.M. report & give diagnosis :-

A case was instituted at gardanibagh police Station by Sri K. Manjhi of Raja bazar, Patna that his White colour pig aged 2 years was poisoned to death by some person. Death occured at 11 P.M. on 4.6.92. P.M. was conducted at 1 P.M. on 5.6.92. Gardani bagh P.S had sent for P.M. examination. Police case number was 102/92. The following changes were seen during P. M. examination :-

P.M. Examination :- Pig was emaciated, Blood coloured fluid was oozing from nose & mouth. Rigor mortis was present in whole body.

Liver was swollen & hard to cut, gall bladder was distended with

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accumulated bile. Mucosa of small intestine & stomach was haemorrhagic. Clotted blood was present in the heart.

REPORT ON POST-MORTEM EXAMINATION

P.M. NO. 52 DT. 5.6.92

Species : Swine (Pig), Colour : White, Sex : Male, Age : 2 years.

Owner : Sri K. Manjhi, Residence :- Vide Gardani Bagh P.S. Case no 102/92.

By whom sent for examination & reasons, if any :<196> By Police. To know the cause of death.

Date & hour of Death :- 11 P.M. on 4.6.92

P.M. Exam. : 1 P.M. on 5.6.92

History - Suspected case of poisoning

External appearance and on removal of skin (describe contusions etc.) :Pig was emaciated, Blood colour fluid was oozing from nose & mouth . Rigor mortis was present in whole body.

Mouth and Pharynx:- red colour fluid was oozing from mouth

Nasal cavities:- red colour fluid was oozing from nose.

Larynx and Trachea:- N.A.D.(Nothing abnormal detected)

Oesophagus:- N.A.D.

Pleural cavity & Lungs:- N.A.D.

Pericardium and heart: - Clotted blood was found in auricle & ventircle of heart.

Peritoneal cavity:-

Liver:- Liver was swollen & hard to cut,

Gall bladder :- It was distended with accumulated bile.

Spleen :- NAD

Stomach & small intestine :- Mucosae of small intestine & stomach were hemorrhagic and congested.

Urinary organs :- NAD

Generative organs :- NAD

Brain & spinal Cord :- NAD

Lymph glands in general :- NAD

Blood smeans if sent for microscopical examination :- NO

Diagnosis on above examination :- Enteritis, Gastritis and Hepatitis.

Remarks (State if viscera and specimens etc. sent for chemical, bacteriological, histopathological and parasitological examination.): Pieces of Liver, Kidneys, lungs, small loop of intestine and small amount of injesta of intestine & stomach were collected in glass container, preserved in saturated solution of sodium chloride (salt), sealed and sent to the Forensic Laboratory for chemical examination and report.

Results of examination. Awaited.

Place where P.M. examination was done at Bihar Veterinary College, Patna.

Date 5.6.92

Forwarded to Gardanibagh (Patna) P.S. for necessary action

Signature

and Designation of Autopsist.

(53) CASE OF INANITION OR EMACIATION OF DOG.

REPORT ON POST-MORTEM EXAMINATION

P.M. NO. 53 Dt. 5.2.94

Species : Canine(Dog), Colour : Black, Sex : Male, Age : About 5 years.

Owner : Md. Akhtar Residence:- Gandhi tola, Patna By whom sent for examination & reasons, if any :- Md. Akhtar (Owner), To know the cause of death.

Date & hour of Death :- 4 A.M. on 5.2.94

P.M. Exam.: 8 A.M. on 5.2.94

History - Weak & off feed since many days. Dull and depressed. External appearance and on removal of skin (describe contusions etc.) Mucous membrane (M.M.) of body were anaemic, conjunctivae ware pale, hide bound condition, loose skin. S/c fat became jelly like.

Mouth and Pharynx:- M.M.Pale.

Nasal cavities:- M.M.Pale.

Larynx and Trachea:- NAD (Nothing abnormal detected).

Oesophagus:- NAD.

Pleural cavity & Lungs:- Lungs anaemic.

Pericardium and heart: - Clotted blood in the heart. Cardiac fat became jelly like.

Peritoneal cavity:-

Liver: Liver was anaemic.

Spleen :- NAD

Stomach & Small intestine :- Mucosae were anaemic.

Urinary organs: NAD

Generative Organs :- NAD

Brain & Spinal cord:- NAD

Lymph glands in general :- NAD

Blood smears if sent for microscopical examination :- Impression smears of liver, lungs, spleen, heart, intestine were prepared & sent to Govt. diagnostic Laboratory.

Diagnosis on above examination :- Anaemia & inanition.

Remarks (State if viscera and specimens etc. sent for chemical, bacteriological, histopathological and parasitological examination):- Pieces of liver, Lungs, Heart, L. nodes and spleen were collected in 10% formalin & sent to Diagnostic laboratory for histopathological examination & report.

Results of Histopathological examination : - Awaited.

Place where P. M. examination was done :- At Patna.

Date 5.2.94

Signature

& Designation of Autopsist.

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54. A CASE OF PNEUMONIA & HEPATITIS OF A BULLOCK

REPORT ON POST-MORTEM EXAMINATION

P.M. NO. 54 Dt. 9.10.90

Species : Bovine (Bullock), Colour : White, Sex : Male, Age : 8 years.

Owner : Sri R. K. Singh, Residence : Boring Road, Ranchi. By whom sent for examination & reasons, if any : Sri R. K. Singh (Owner), to know the cause of death.

Date & hour of Death :- Not reported

P.M. Exam. : 9 A.M. on 6.6.90

History - Bullock was suffering with respiratory distress, off feed, high fever.

External appearance and on removal of skin (describe contusions etc.). : Rigor mortis was present in head, neck & fore legs so death appeared to have occured about 10 hours earlier.

Mouth and Pharynx:- NAD (Nothing abnormal detected).

Nasal cavities:- Contained froathy exudate.

Larynx and Trachea:- Lumen of trachea showed the presence of froathy exudate.

Oesophagus:- NAD

Pleural cavity & Lungs:- Parts of both lungs were congested, consolidated & cut parts showed the presence of froathy exudate.

Pericardium and heart: - Clotted blood in the heart.

Peritoneal cavity:-

Liver :- Liver was highly swollen & enlarged in size. On incision, cut parts bulges & pale, gall bladder showed excess of bile.

Spleen :- NAD

Stomach & small intestine:- NAD

Urinary organs:- NAD

Generative organs:- NAD

Brain & spinal cord:- NAD

Lymph glands in general:- NAD

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Blood smears if sent for microscopical examination. Impression smears of heart, ungs, liver and lymph nodes were prepared and sent to the laboratory for examination.

Diagnosis on above examination :- Pneumonia & hepatitis.

Remarhs (State if viscera and specimens etc. sent for chemical, bacteriological, histopathological and parasitological examination):- Small pieces of liver, lungs, spleen, heart, intestine & lymph nodes were collected in 10% formalin & sent to laboratory for examination.

Result of Chemical, Bacteriological, Parasitological examination :- Awaited.

Place, where P.M. examination was made :- At Veterinary Hospital Ranchi.

Date 6.9.90

Signature

& Designation of Autopsist.

55. CASE OF HIGHLY PUTRIFIED OR DECOMPOSED BODY OF GOAT.

Report of Post Mortem Examination

P.M.No. 55 Dt. 10.5.89.

Species : Caprine (She goat), Colour : Black, Sex : Female, Age : about 3 years.

Owner : Goat breeding farm, Residence :- Patel Nagar, Nawadah.

By Whom sent for examination & reasons, if any :- Officer incharge, Goat breeding Farm, Nawadah. To know the cause of death.

Date & hour of Death :- Not reported.

P.M.Examination : 10 A.M. on 10.5.89.

History :- Animal was suffering with diarrhoea, dehydration. Treatment was done but died.

External appearance and on removal of skin (describe contusions etc.) :- Abdomen was highly distended with accumulated gas. Bad putrid smell from carcass. Highly putrified. Death appeared to have taken place about 24 to 30 hours earlier. Rigor mortis was absent.

Mouth and Pharynx :- N.A.D.

Nasal cavities :- N.A.D.

Larynx and Trachea :- N.A.D.

Oesophagus :- N.A.D.

Pleural cavity & Lungs :- Both lungs were putrified.

Pericardium and heart :- N.A.D.

Peritoneal cavity :- N.A.D.

Liver :- Decomposed.

Spleen :- Decomposed.

Stomach & small intestine :- Putrified.

Urinary organs :- Putrified.

Generative organs :- Putrified.

Brain & spinal cord :- Putrified.

Lymph glands in general :- Decomposed.

Blood smears if sent for microscopical examination :- Smears of Liver, heart, spleen and L.nodes were prepared and sent to laboratory.

Diagnosis on above examination :- Diagnosis could not be made due to putrifactive changes.

Remarks (State if viscera and specimens etc. sent for chemical, bacteriological, histopathological and parasitological examination) :- No.

Results of Chemical, Bacteriological, Parasitological and Histopathological examination.

Place, where P.M.examination was done :- at Nawadah.

Date 10.5.89.

Signature & Designation

of Autopsist.

56. MEDICO-LEGAL CASE OF ACCIDENT BY TRUCK.

Report of Post Mortem Examination

P.M.No. 56 dt. 23.8.93.

Species : Bovine (Cow), Colour : White, Sex : Female, Age : Adult.

Owner : Vide Traffic Police station case no. 14/93 dated 22.8.93

under section 279/429/I.P.C.

By Whom sent for examination :- Officer incharge, Traffic P.S.Patna, Reasons if any :- To know the cause of death.

Date & hour of Death :- Not reported.

P.M.Examination : 9 A.M. on 23.8.93

History :- As reported, accident by Truck.

External appearance and on removal of skin (describe contusions etc.) :- Rigor mortis was present in hind limbs & death appeared to have occurred about 20 hours earlier. Red fluid from nose. Abrasion lesion on medial side of right ear with blood clot. On removal of skin, muscles of head, massiter muscles were infiltrated with blood clots. Haemorrhagic changes on muscles of thorax. 5th & 6th ribs of right side were fractured on their extrimities.

Mouth and Pharynx :- N.A.D.

Nasal cavities :- Red fluid was oozing from nose.

Larynx and Trachea :- N.A.D.

Oesophagus :- N.A.D.

Pleural cavity & Lungs :- Pleural cavity contained one ounce blood clots.

Pericardium and heart :- Empty heart, right ventricle dilated.

Peritoneal cavity :- Peritoneal cavity contained blood tinged fluid.

Liver :- Liver slightly decomposed.

Spleen : Spleen was ruptured by two inch long on interior of 1/3rd with blood clots.

Stomach & small intestine :- Rumen was distended with gas.

Urinary organs :- Kidneys decomposed.

Generative organs :- N.A.D.

Brain & spinal cord :- N.A.D.

Lymph glands in general :- Lymph glands were pale.

Blood smears if sent formicroscopical examination :- No.

Diagnosis on above examination :- Death occurred due to internal haemorrhage & shock due to injury.

Remarks (State if viscera etc. sent for chemical, bacteriological, histopathological and parasitological examination) :- No.

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Results of Chemical, Bacteriological, Parasitological and Histopathological examination.

Place, where P.M. examination was done :- at Patna.

Date 23.8.93

Signature

& Designation of Autopsist.

57. POLICE CASE OF BRAIN HAEMORRHAGE.

Report of Post Mortem Examination

P.M. No. 57 Dt. 26.10.90

Species : Swine, Colour : White, Sex : Female, Age : about 2 weeks.

Owner : Vide Kotwali Police Station case no 529/90 dated 25.10.90 u/s 279 I.P.C.

By Whom sent for examination & reasons, if any :- O/C Kotwali, P.S. Patna, To know the cause of death.

Date & hour of Death : Not reported.

P.M. Examination :- 3.50 P.M. on 26.10.90

History :- Reported to have been killed by blunt weapon.

External appearance and on removal of skin (describe contusions etc.) :- Blood fluid was oozing from mouth & nose. Abdomen were distended. Abnoxious smell from carcass. Death appeared to have occurred about 25-30 hours earlier. Rigor mortis was absent. Abrasion on skin of head with blood clot.

Mouth and Pharynx :- Blood fluid was oozing from mouth.

Nasal cavities :- N.A.D.

Larynx and Trachea :- Boody fluid was present in trachea.

Oesophagus :- N.A.D.

Pleural cavity & Lungs :- Both lungs were decomposed.

Pericardium and heart :- Ventricles of heart were empty.

Peritoneal cavity :- N.A.D.

Liver :- Decomposed.

Stomach & small intestine :- Stomatch was distended with gas.

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Urinary organs :- Kidneys were decomposed.

Generative organs :- N.A.D.

Brain & spinal cord :- About 2 ounces blood clot was present on cerebrum in the cranial cavity with broken frontal bone.

Lymph glands in general :- N.A.D.

Blood smears if sent for microscopical examination :- No.

Diagnosis on above examination :- Died due to brain haemorrhage.

Remarks (State if viscera and specimens etc. sent for chemical, bacteriological, histopathological and parasitological examination) :- No.

Results of Chemical, Bacteriological, Parasitological and Histopathological examination.

Place, where P.M.examination was done :- at B.V.C. Patna.

Date 26.10.90

Signature

& Designation of Autopsist.

Copy forwarded to the Kotwali Police Station, Patna for necessary action.

58. MEDICOLEGAL CASE OF INJURY BY BUS.

Report of Post Mortem Examination

P.M.No. 58 dt. 10.8.88.

Species : Equine (Horse), Colour : Red, Sex : Male, Age : about 4 years.

Owner : Md. Jafar 'Mian, Khazpura, Patna, Residence :- Vide Traffic Police case no 270 dated 9.10.88 under section 279/429 I.P.C. of traffic police station, Patna.

By Whom sent for examination :- Traffic Police Station, Patna.

Reasons if any :- To know the cause of death.

Date & hour of Death :- Not reported.

P.M.Examination :- 10 A.M. on 10.8.88.

History :- Reported to have died due to accident of Bus.

External appearance and on removal of skin (describe contusions etc.) :- Cut & abrasion mark on the skin of thigh & lower parts of both hind limbs surrounded by clotted blood. Rigor mortis was present in whole body so death appeared to have occurred 12 to 15 hours earlier. Pelvic bone was fractured & dislocation of right hip joint with fracture of bone.

Pleural cavity & Lungs :- Lungs were congested.

Pericardium and heart :- Heart was empty.

Peritoneal cavity :- About 3 pound clotted blood was found.

Liver :- Liver was anaemic.

Stomach & small intestine :- N.A.D.

Urinary organs :- N.A.D.

Generative organs :- N.A.D.

Brain & spinal cord :- N.A.D.

Lymph glands in general :- N.A.D.

Blood smears if sent for microscopical examination :- No.

Diagnosis on above examination :- Death occurred due to rupture of diaphragm & internal haemorrhage associated with fracture of bone.

Remarks (State if viscera and specimens etc. sent for chemical, bacteriological, histopathological and parasitological examination) :- No.

Results of Chemical, Bacteriological, Parasitological and Histopathological examination.

Place where P.M.examination was done :- at Khazpura, Patna.

Date 10.8.88

Signature

& Designation of Autopsist.

Copy forwarded to the Officer Incharge, Traffic Police Station, Patna for necessary action.

59. CASE OF RANIKHET DISEASE OF POULTRY.

Report of Post Mortem Examination

P.M.No. 59 dt. 27.7.92

Species : Avian (Hen), Colour : White, Sex : Female, Age : Adult.

Owner : Poultry farm, Patna.

By Whom sent for examination :- Manager, Poultry farm, Patna.

Reasons if any :- To know the cause of death.

Date & hour of Death :- Night of 26.7.92.

P.M.Examination :- 11 A.M. on 27.7.92

History :- Suffering with watery greenish diarrhoea, respiratory distress & restlessness.

External appearance and on removal of skin (describe contusions etc.) :- Lighter in weight, vent area soiled with faeces.

Mouth and Pharynx :- N.A.D.

Nasal cavities :- N.A.D.

Larynx and Trachea :- Contained fluid.

Oesophagus :- N.A.D.

Pleural cavity & Lungs :- Both lungs were pneumonic.

Pericardium and heart :- Clotted blood was found in the heart.

Peritoneal cavity :-

Liver :- Swollen.

Spleen :- Shrunken.

Stomach & small intestine :- Mucosa of Proventriculous and caecal tonsil showed the presence of haemorrhages. Mucosa of intestine was haemorragic.

Generative organs :- N.A.D.

Brain & spinal cord :- N.A.D.

Blood smears if sent for microscopical examination :- Smears from liver, intestine, heart, proventriculous were prepared & sent to the laboratory.

Diagnosis on above examination :- Gross lesions were suggestive of Ranikhet disease.

Remarks (State if viscera and specimens etc. sent for chemical, bacteriological, histopathological and parasitological examination) :- Pieces of liver, heart, intestine, caecal tonsil, proventriculous & spleen were collected in 10% formalin & sent to the laboratory for examination & report.

Results of Chemical, Bacteriological, Parasitological and Histopathological examination :- Awaited.

Place, where P.M.examination was done :- at Poultry Farm, Patna city, Patna.

Date 27.7.92

Signature

& Designation of Autopsist.

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60. CASE OF COCCIDIOSIS IN A POULTRY.

Report of Post Mortem Examination

P.M.No. 60 dt. 17.3.91

Species : Avian, Colour : Black, Sex : Male, Age : 4 months.

Owner : Poultry farm, Patna.

By Whom sent for examination :- Manager, Poultry farm, Patna.

Reasons if any :- To know the cause of death.

Date & hour of Death :- 6 A.M. on 17.3.91.

P.M.Examination :- 11 A.M. on 17.3.91

External appearance and on removal of skin (describe contusions etc.) :- Pale conjunctiva, muscles were atrophied.

Mouth and Pharynx :- N.A.D.

Nasal cavities :- N.A.D.

Larynx and Trachea :- N.A.D.

Oesophagus :- N.A.D.

Pleural cavity & Lungs :- N.A.D.

Pericardium and heart :- Clotted blood was found in heart.

Peritoneal cavity :-

Liver :- N.A.D.

Spleen :- Slightly swollen.

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Intestine :- Both caecca were swollen & redish colour. Mucosa of Caecum was highly congested. Caecum contained blood mixed injesta.

Urinary organs :- N.A.D.

Generative organs :- N.A.D.

Brain & spinal cord :- N.A.D.

Blood smears if sent for microscopical examination :- Smears of Mucosa & injesta of caecum.

Diagnosis on above examination :- Coccidiosis.

Remarks (State if viscera and specimens etc. sent for chemical, bacteriological, histopathological and parasitological examination) :- Affected, tissues in 10% formalin.

Results of Chemical, Bacteriological, Parasitological and Histopathological examination :- Awaited.

Place, where P.M.examination was done :- at Poultry Farm, Patna.

Date 17.3.91

Signature

& Designation of Autopsist.

61. A CASE OF THEILERIASIS IN COW.

Report of Post Mortem Examination

P.M.No. 61 dt. 7.6.90

Species : Bovine (Cow), Colour : Black, Sex : Female, Age : 7 years 6 months.

Owner : Cattle farm, Jhumari Tilaya, Hazaribagh.

By Whom sent for examination :- Project officer of Farm, Jhumari Tilaya.

Reasons if any :- To know the cause of death.

Date & hour of Death :- 11 P.M. on 6.6.90

P.M.Examination :- 10 A.M. on 7.6.90

History :- High fever, prescapular lymph node enlarged, diarrhoea, off feed, dull & depressed.

External appearance and on removal of skin (describe contusions etc.) :- Eyes were pale, emaciated and icteric.

Mouth and Pharynx :- N.A.D.

Nasal cavities :- N.A.D.

Larynx and Trachea :- N.A.D.

Oesophagus :- N.A.D.

Pleural cavity & Lungs :- Lungs were anaemic.

Pericardium and heart :- Semi clotted blood was present in the heart.

Peritoneal cavity :-

Liver :- Liver was swollen.

Spleen :- Spleen was enlarged in size.

Stomach and small intestine :- Mucosa of abomasum showed petechial haemorrhages. Ulcers were also seen on mucosa of abomasum.

Urinary organs :- N.A.D.

Generative organs :- N.A.D.

Brain & spinal cord :- N.A.D.

Lymph gland in general :- Lymph nodes particularly Pre scapular lymph nodes were enlarged in size and congested.

Blood smears if sent for microscopical examination :- Smears of lymph nodes (Prescapular), abomasum, spleen, liver and heart were sent to the laboratory.

Diagnosis on above examination :- Suggestive for theileriasis.

Remarks (State if viscera and specimens etc. sent for chemical, bacteriological, histopathological and parasitological examination) :- Pieces of liver, heart, lymph nodes and intestine were collected in 10% formalin & sent to the laboratory.

Results of Chemical, Bacteriological, Parasitological and Histopathological examination :- Awaited.

Place, where P.M.examination was done :- at Jhumari Tilaya, Hazaribagh.

Date 7.6.90

Signature

& Designation of Autopsist.

62. A CASE OF HAEMORRHAGIC SEPTICAEMIA (H.S.) IN BULL.

Report of Post Mortem Examination

P.M.No. 62 dt. 17.6.88

Species : Bovine (Bull), Colour : White, Sex : Male, Age : 9 years 3 months.

Owner : Semen Bank, Biharsarif.

By Whom sent for examination :- Project officer, Semen Bank. Reasons if any :- To know the cause of death.

Date & hour of Death :- 10 P.M. on 16.8.86

P.M.Examination :- 7 A.M. on 17.6.88

History :- High fever, hard swelling in throat, off feed, respiratory distress.

External appearance and on removal of skin (describe contusions etc.) :- Rigor mortis was present in head, neck and trunk. Eyes were pale oedematous swelling on the throat region contained fluid.

Mouth and Pharynx :- N.A.D.

Nasal cavities :- N.A.D.

Larynx and Trachea :- Trachea contained froathy exudate.

Oesophagus :- N.A.D.

Pleural cavity & Lungs :- Both lungs were hyperaemic, consolidated, and cut part of lungs showed fluid in bronchi & bronchioles.

Pericardium and heart :- Petechial haemorrhages on the surface of heart. Heart contained clotted blood.

Peritoneal cavity :-

Liver :- Surface of liver showed the presence of petechial haemorrhages.

Spleen :- Haemorrhages were present on the surface of spleen.

Stomach and small intestine :- Mucosa was congested.

Urinary organs :- Petechial haemorrhages on the cortex of kidneys.

Generative organs :- N.A.D.

Brain & spinal cord :- N.A.D.

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Lymph gland in general :- N.A.D.

Blood smears if sent for microscopical examination :- Impression smears of liver, heart, L.nodes, swelling fluid of throat and intestine were sent to laboratory.

Diagnosis on above examination :- Suggestive for H.S.

Remarks (State if viscera and specimens etc. sent for chemical, bacteriological, histopathological and parasitological examination) :- Pieces of liver, heart, L.nodes and kidneys were sent to the laboratory preserved in 10% formalin.

Results of Chemical, Bacteriological, Parasitological and Histopathological examination :- Awaited.

Place, where P.M.examination was done :- Biharsarif.

Date 17.6.88

Signature

& Designation of Autopsist.

63. A CASE OF BLACK QUARTER (B.Q.) IN BULLOCK.

Report of Post Mortem Examination

P.M.No. 63 dt. 14.6.90

Species : Bovine (Bullock), Colour : White, Sex : Male, Age : 2 year 6 months.

Owner : Sri R. P. Gupta, Residence : Par Nawadah, Nawadah.

By Whom sent for examination :- By owner.

Reasons if any :- To know the cause of death.

Date & hour of Death :- 5 A.M. of 14.6.90

P.M.Examination :- 10 A.M. on 14.6.90

History :- High fever, dull, depressed, off feed, unable to stand on legs.

External appearance and on removal of skin (describe contusions etc.) :- Rigor mortis was present in head. Swelling were found on the muscles of thigh & shoulder. Swelling on pressure gives cripitating sound. On incision, blood stained dirty red mixed with

Dr G Ram Babu

bubbles of gas oozed. Affected muscles were necrosed & black in colour. Fluid gave rancid butter odour.

Mouth and Pharynx :- N.A.D.

Nasal cavities :- N.A.D.

Larynx and Trachea :- N.A.D.

Oesophagus :- N.A.D.

Pleural cavity & Lungs :- N.A.D.

Pericardium and heart :- Clotted blood in heart.

Peritoneal cavity :-

Liver :- Liver was swollen.

Spleen :- Spleen was swollen.

Stomach and small intestine :- N.A.D.

Urinary organs :- N.A.D.

Generative organs :- N.A.D.

Brain & spinal cord :- N.A.D.

Lymph gland in general :- Swollen lymph nodes.

Blood smears if sent :- Impression smears of fluid of swelling of muscles, heart, L.nodes and liver were sent to the laboratory.

Diagnosis on above examination :- Suggestive for B.Q.

Remarks (State if viscera and specimens etc. sent for chemical, bacteriological, histopathological and parasitological examination) :- Pieces of affected muscles, lymph nodes, heart, kidneys and spleen in 10% formal saline solution & sent to the laboratory.

Results of Chemical, Bacteriological, Parasitological and Histopathological examination :- Awaited.

Place, where P.M.examination was done :- Par-Nawadah, Nawadah.

Date 14.6.90

Signature

& Designation of Autopsist.

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64. A CASE OF RINDER PEST (R.P.) IN COW.

Report of Post Mortem Examination

P.M.No. 64 dt. 23.7.90

Species : Bovine (Cow), Colour : Black & White, Sex : Female, Age : 6 year 4 months.

Owner : Sri B. K. Ojha, Barmasia, Deoghar.

By Whom sent for examination :- By owner.

Reasons if any :- To know the cause of death.

Date & hour of Death :- 4 A.M. of 23.7.90

P.M.Examination :- 2 P.M. on 13.7.90

History :- High fever in early stage followed by shooting diarrhea, off feed, dull.

External appearance and on removal of skin (describe contusions etc.) :- Emaciated, haemorrhages & pustules in skin of body and conjunctivities.

Mouth and Pharynx :- Greyish white nodular elevation or erosion on gum.

Nasal cavities :- Mucopurulent discharge from mouth & nose.

Larynx and Trachea :- N.A.D.

Oesophagus :- N.A.D.

Pleural cavity & Lungs :- Lungs were congested & emphysematous.

Pericardium and heart :- Clotted blood was found in heart.

Peritoneal cavity :- N.A.D.

Liver :- Swollen & on incision cut parts bulges. Haemorrhages were present on the surface.

Spleen :- N.A.D.

Stomach and small intestine :- Mucosa of abomasum were congested swollen & haemorrhagic. Mucosae of intestine were congested. Payer's patches were necrosed. Mucosa of large intestine was congested. Mucosa of colon & rectum showed parallel bands of congestion referred as "Zebra Marking".

Urinary organs :- Kidneys were swollen.

Generative organs :- N.A.D.

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Brain & spinal cord :- N.A.D.

Lymph gland in general :- Mesenteric lymph glands were swollen, congested & showed haemorrhages.

Blood smears if sent for microscopical examination :- Smears of heart, lungs, intestine and L.nodes were sent to the laboratory.

Diagnosis on above examination :- Lesions were suggestive of Rinder pest.

Remarks (State if viscera and specimens etc. sent for chemical, bacteriological, histopathological and parasitological examination) :- Pieces of liver, lungs, heart, kidneys, intestine, L.nodes were collected in 10% formalin & sent to the laboratory for examination & report.

Results of Chemical, Bacteriological, Parasitological and Histopathological examination :- Awaited.

Place, where P.M.examination was done :- at Barmasia, B.Deoghar.

Date 23.7.90

Signature

& Designation of Autopsist.

65. A CASE OF FOOT AND MOUTH DISEASE (F.M.D) IN COW.

Report of Post Mortem Examination

P.M.No. 65 dt. 15.6.92

Species : Bovine (Cow), Colour : Black, Sex : Female, Age : 9 year 6 months.

Owner : Cattle Farm, Gola Road, Muzaffarpur.

By Whom sent for examination :- Incharge cattle farm, Gola road, Muzaffarpur.

Reasons if any :- To know the cause of death.

Date & hour of Death :- 5 A.M. of 15.6.92

P.M.Examination :- 7 A.M. on 15.6.92

History :- Excessive swollen, high fever, off food, lameness, wound

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in the food.

External appearance and on removal of skin (describe contusions etc.) :- Vesicular lesions were found on lips, dorsum of tongue. Vesicles were also found on skin of coronory band of inter digital space & also on skin of teats and udder. Eyes were red.

Nasal cavities :- N.A.D.

Larynx and Trachea :- N.A.D.

Oesophagus :- N.A.D.

Pleural cavity & Lungs :- N.A.D.

Pericardium and heart :- Clotted blood in heart.

Peritoneal cavity :-

Liver :- N.A.D.

Spleen :- N.A.D.

Stomach and small intestine :- Haemorrhages & oedema were found in mucosa of abomasum.

Urinary organs :- N.A.D.

Generative organs :- N.A.D.

Brain & spinal cord :- N.A.D.

Lymph gland in general :- N.A.D.

Blood smears if sent for microscopical examination :- Smears of liver, heart, L.nodes and vesicle lesions.

Diagnosis on above examination :- Foot and Mouth disease.

Remarks (State if viscera and specimens etc. sent for chemical, bacteriological, histopathological and parasitological examination) :- Pieces of affected tissues in 10% formalin for histopathological examination.

Results of Chemical, Bacteriological, Parasitological and Histopathological examination :- Awaited.

Place, where P.M.examination was done :- Muzaffarpur.

Date 15.6.92

Signature

& Designation of Autopsist.

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66. A CASE OF SWINE FEVER (HOG CHOLERA) IN PIG

Report of Post Mortem Examination

P.M.No. 66 dt. 28.3.93

Species : Swine, Colour : Black, Sex : Female, Age : 2 year 3 months.
Owner : Sri Kallu Manjhi, Residance Patna.
By Whom sent for examination :- By Sri B.K.Manjhi, to know the cause of death.
Reasons if any :- To know the cause of death.
Date & hour of Death :- 2 A.M. of 28.3.93
P.M.Examination :- 9 A.M. on 28.3.93
History :- High fever, nervous symptoms, grinding of teath, red patches on skin, diarrhoea & respiratory distress.
External appearance and on removal of skin (describe contusions etc.) :- Conjunctiva of eyes were red. Red patches on the skin of body.
Mouth and pharynx :- N.A.D.
Nasal cavities :- N.A.D.
Larynx and Trachea :- Trachea contained fluid.
Oesophagus :- N.A.D.
Pleural cavity & Lungs :- Both lungs were pneumonic.
Pericardium and heart :- Pericardium & endocardium showed the presence of petechial haemorrhages.
Peritoneal cavity :- Petechial haemorrhages were seen on the peritoneal surface.
Liver :- Petechial haemorrhages were present on the liver.
Spleen :- N.A.D.
Stomach and small intestine :- Mucosae of stomach & small intestine were congested. Button shaped ulcer was present in mucosa of intestine.
Urinary organs :- Córtical surfaces of both kidneys showed the presence of petechial haemorrhages.
Generative organs :- N.A.D.
Brain & spinal cord :- N.A.D.
Lymph gland in general :- Congested.
Blood smears if sent for microscopical examination :- Smears of liver, heart, spleen, intestine and L.nodes were sent to the laboratory.
Diagnosis on above examination :- Swine fever.
Remarks (State if viscera and specimens etc. sent for chemical, bacteriological, histopathological and parasitological examination) :-

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Pieces of liver, intestine, heart, kidneys and L.nodes were sent to the laboratory, preserved in 10% formalin saline solution for examination & report.

Results of Chemical, Bacteriological, Parasitological and Histopathological examination :- Awaited.

Place, where P.M.examination was done :- Behara.

Date :- 28.3.93

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& Designation of Autopsist.

67 A CASE OF TRAUMATIC PERICARDITIS IN COW

REPORT OF POST-MORTEM EXAMINATION

P.M. NO. 67 dt. 8.9.90

Species :- Bovine (Cow), Colour :- Black, Sex :- Female, Age :- 8 years 2 months.

Owner :- A. K. Barial, Residence :- Mathura kutir, par-Nawadah, Nawadah.

By whom sent for examination & reasons, if any :- Sri A.K.Barial, Nawadah . To ascertain the Cause of death.

Date & hour of Death : 4 P.M. on 8.11.90
P.M. Exam.: 10.30 A.M. on 9.11.90

History :- Restlessness and sudden death.

External appearance and on removal of skin (describe contusions etc.) : Pale conjunctivae of eyes. Rigor mortis was present in whole body.

Mouth & pharynx :- Fluid oozed from mouth.

Nasal cavity :- Redish fluid from nose.

Larynx and Trachea :- NAD

Oesophagus :- NAD

Pleural cavity & Lungs :- NAD

Pericardium and heart :- Heart was covered with blood stained fibrous thick & vascular tissue. Pericardial sac distended with fibrino-purulent fluid. Heart was hypertrophied. Wall of reticulum,

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diaphragm & pericardium were adhesive lesion contain 8 inch long metalic wire (nail) piercing from reticulam to pericardium.

Peritoneal cavity :-

Liver :- Pale.

Spleen :- NAD

Stomach & small intestine :- There was adhesion between wall of reticulum and diaphragm & showed the presence of 8 inches metalic wire(nail).

Urinary organs :- NAD

Generative Organs :- NAD

Brain & spinal cord :- NAD

Lymph glands in general :- NAD

Blood smears if sent for microscopical examination :- B/S from lesion of heart, reticulum, liver and splean.

Diagnosis on the basis of above examination :- Traumatic pericarditis.

Remarks (State if viscera and specimens etc.sent for chemical, bacteriological, histopathological and parasitological examination):- Pieces of affected tissues in 10% formalin.

Results of Chemical, Bacteriological, Parasitological and Histopathological examination.:- Awaited.

Place were P.M. examination was made at :- Par- Nawadah, Nawadah.

Date:- 9.11.90

Signature

& designation of Autopsist.

68. A CASE OF GLANDERS IN HORSE

REPORT OF POST-MORTEM EXAMINATION

P.M. NO. 68 dt. 2.4.84

Species :- Equine (Horse), Colour :- Black, Sex :- Male, Age :- Adult.

Owner : Sri R.P.Verma, Residence :- Wrigt town, Jabalpur

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By whom sent for examination and reasons, if any :- Sri. R. P. Verma, Jabalpur. To know the cause of death.

Date & hour of Death - 2 A.M. on 2.4.84.

P.M. Exam. :- 8 A.M. on 2.4.84.

External appearance and on removal of skin (describe contusions etc.) : Numerous small nodules (Farcy buds) found in chain in sub Cutaneous tissue along the course of lymphatics of both hind limibs. Abscesses of these nodules discharged oily pus leaving ulcers. Lymphatics were thickened (Farcy cords).

Mouth and pharynx:- Ulcers were found in mucosa.

Nasal cavities :- Ulcers were found in larynx and trachea.

Larynx and Trachea :- Ulcers were found .

Oesophagus :- NAD

Pleural cavity & Lungs :- Several nodules were found present on lungs parenchyma. Size of nodules were pea size. Colour of the nodules were gray yellow with capsule.

Pericardium and heart :- Clotted blood was present in heart.

Peritoneal cavity :-

Liver :- NAD

Spleen :- NAD

Stomach & small intestine :- NAD

Generative Organs :- NAD

Brain & spinal cord :- NAD

Lymph glands in general :- Lymph glands in particularly sub maxillary gland was enlarged, oedematous and hard in nature.

Blood smears if sent for microscopical examination :- Smears of lymph glands, sub-cutaneous lesion of legs, lungs, heart and liver were sent to the laboratory.

Diagnosis on above examination :- Glanders and Farcy.

Remarks (State if viscera and specimens etc.sent for chemical, bacteriological, histopathological and parasitological examination):- Pieces of lesions of hind limbs , larynx, trachea, liver, heart and spleen were collected in 10% formalin and sent to the laboratory for examination and report.

Result of Chemical, Bacteriological, Parasitological and

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Histopathological examination :- Awaited.

Place where P.M. examination was conducted :- at wright town, Jabalpur, (M.P.).

Date :- 2.4.84.

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& Designation of Autopsist.

(69) A CASE OF ENTERITIS IN SWINE.

Report of Post-mortem Examination

P.M.No. 69/98 date 14/01/90.

Species :- Swine (Pig), Colour :- Black, Sex :- Male, Age :- One year.

Owner :- Sri Gopal Ram, Residence :- R. V. C. Ranchi.

By whom sent for examination and reason, if any :- Sri Gopal Ram Ranchi. To know the cause of death.

Date and hour of death :- 10.15 A.M. on 14.1.90

Date and hour of P.M. Examination :- 11 A.M. on 14.1.90

History :- Diarrhoea, dysentry, weakness, emaciated.

External appearance and internal appearance after removal of skin (describe contusions etc.) :- Conjunctive pale, muscles atrophied, emaciated, emaciated.

Mouth & Pharynx :- N.A.D.

Nasal cavities :- N.A.D.

Larynx and Trachea :- N.A.D.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- N.A.D.

Pericardium & heart :- Clotted blood was found in heart.

Peritoneal cavity :-

Liver :- Pale.

Spleen :- Pale and anaemic.

Stomach & small intestine :- Mucosae of small intestine were highly congested and haemorrhagic. Content of intestine was blood

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tinged. Serosa of intestine was red colour.

Urinary organs :- N.A.D.

Generative organs :- N.A.D.

Brain & spinal cord :- N.A.D.

Lymph glands in general :- Lymph nodes anaemic.

Blood smears, if sent for microscopic examination :- Blood smears of intestine, heart, lungs, spleen and lymph nodes were sent to the laboratory.

Diagnosis on the basis of above examination :- Enteritis.

Remarks (State if viscera and specimens etc. sent for chemical, bacteriological, histopathological and parasitological examination) :- Pieces of intestine, mesentric lymph nodes, heart, lungs and spleen were collected in 10% formalin and sent to the laboratory for examination and report.

Results of chemical, bacteriological, parasitological and histopathological examination. :- Awaited.

Place, where P.M. examination was made :- R.V.C. Kanke, Ranchi.

Date :- 14.1.90

Signature,

& Designation of Autopsist

(70) A CASE OF JOHNE'S DISEASE IN COW.

Report of Post-mortem Examination

P.M.No. 70 date 19/9/90

Species :- Bovine (Cow), Colour :- White, Sex :- Female, Age :- 3 years 5 months.

Owner :- Sri V.K.S. Barial, Residence :- Mathura-Kutir, Par Nawadah. Nawadah.

By whom sent for examination and reason, if any :- Sri V. K. S. Barial, Nawadah. To ascertain the cause of death.

Date and hour of death :- 6 P.M. on 9.9.90

Date and hour of P.M. Examination :- 10 A.M. on 10.10.90

History :- Persistant diarrhoea, loss of weight, emaciation and

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hode bond condition in which ribs were prominent.

External appearance and internal appearance after removal of skin (describe contusions etc.) :- Highly emaciated in head, neck, fore legs & truck.

Mouth & Pharynx :- N.A.D.

Nasal cavities :- N.A.D.

Larynx and Trachea :- Mucosa of trachea was anaemic.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- Both lungs were pale.

Pericardium & heart :- Clotted blood was found in heart.

Peritoneal cavity :-

Liver :- Liver was Pale.

Spleen :- N.A.D.

Stomach & small intestine :- Mucosae of intestine particularly ilium and caeccum were pale, highly thickened, oedematous. Mucous membrane is arranged in numerous folds of 5 to 8 m.m. diameter. These folds gave look of corrugation which were not flattened even on tension. Top of folds were congested.

Urinary organs :- N.A.D.

Generative organs :- N.A.D.

Brain & spinal cord :- N.A.D.

Lymph glands in general :- Mesenteric lymph nodes were swollen.

Blood smears, if sent for microscopical examination :- Smears from intestine, liver, heart, lungs and lymph nodes were swollen.

Diagnosis on the basis of above examination :- Suggestive for Johne's Disease.

Remarks (State if viscera and specimens etc. sent for chemical, bacteriological, histopathological and parasitological examination) :- Pieces of intestine, lymph nodes, spleen, heart and kidney were sent to the laboratory in 10% formalin.

Results of chemical, bacteriological, parasitological and histopathological examination. :- Awaited.

Place, where P.M. examination was made :- Par-Nawadah, Nawadah.

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Date :- 20.9.90

Signature,

& Designation of Autopsist

(71) A CASE OF RABIES IN DOG.

Report of Post-mortem Examination

P.M.No. 71 date 28.7.91

Species :- Canine (dog), Colour :- Black, Sex :- Male, Age :- 5 years.

Owner :- Sri Shymanand Prasad, Residence :- Barmasia, B. Deoghar.

By whom sent for examination and reason, if any :- Sri Shymanand Prasad, B. Deoghar.

Date and hour of death :- 2 A.M. on 28.7.91

Date and hour of P.M. Examination :- 8 A.M. on 28.7.91

History :- Dog bite, furious & mad, excessive salivation & paralysis at the time of death.

External appearance and internal appearance after removal of skin (describe contusions etc.) :- Salvine was oozing from mouth.

Mouth & Pharynx :- N.A.D.

Nasal cavities :- N.A.D.

Larynx and Trachea :- N.A.D.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- N.A.D.

Pericardium & heart :- Clotted blood was found in heart.

Peritoneal cavity :-

Liver :- N.A.D.

Spleen :- N.A.D.

Stomach & small intestine :- Foreign materials were found in the stomach.

Urinary organs :- N.A.D.

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Generative organs :- N.A.D.

Brain & spinal cord :- Brain was mildly congested.

Lymph glands in general :- N.A.D.

Blood smears, if sent for microscopic examination :- Smears of hippocampus of brain, lungs and heart were sent to the laboratory.
Diagnosis on the basis of above examination :- History of dog bite, symptoms and congestion of brain were suggestive of Rabies. Dog bitten persons should take preventive measures.

Remarks (State if viscera and specimens etc. sent for chemical, bacteriological, histopathological and parasitological examination) :- Whole head or brain was sent to the laboratory preserved in ice.

N.B. :- Smears of brain, stained by sellers stain may not show the presence of Negri bodies but mere absence of Negri bodies, it does not exclude the posibility of Rabies.

Results of chemical, bacteriological, parasitological and histopathological examination. :- Awaited.

Place, where P.M. examination was made :- R.V.C. Kanke, Ranchi.

Date :- 28.7.91

Signature,

& Designation of Autopsist

(72) GUM-BORO DISEASE (I.B.D.) IN POULTRY.

Report of Post-mortem Examination

P.M.No. 72 date 5.5.94

Species :- Avian, Colour :- White, Sex :- Male, Age :- One month.

Owner :- Sri A.K.Bariar, Residence :- Mathura-Kutir, Par-Nawadah. Nawadah.

By whom sent for examination and reason, if any :- By owner; to know the cause of death.

Date and hour of death :- 8 A.M. on 5.5.94

Date and hour of P.M. Examination :- 9 A.M. on 5.5.94

History :- Majority of birds of farm were ill. Heavy mortality. There was soiling of vent region with ehitish diarrhoea, trembling,

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dehydrated, subnormal temperature, tendency of picking.

External appearance and internal appearance after removal of skin (describe contusions etc.) :- Dehydrated, vent region with white colour faeces. Haemorrhages in thign and pectoral muscies.

Mouth & Pharynx :- N.A.D.

Nasal cavities :- N.A.D.

Larynx and Trachea :- N.A.D.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- N.A.D.

Pericardium & heart :- Clotted blood was found in heart.

Peritoneal cavity :-

Liver :- Slightly swollen.

Spleen :- Enlarged in size . Small gray necrotic foci were found on the surface of spleen.

Small intestine :- Increased mucous was found in the intestine.

Urinary organs :- N.A.D.

Generative organs :- N.A.D.

Brain & spinal cord :- N.A.D.

Gizzard :- Haemorrhages were found in the mucosa at the junction of proventriculous & Gizzard.

Blood smears, if sent for microscopical examination :- Smears of heart, lungs, bursa, spleen and gizzard were sent to the laboratory.

Diagnosis on the basis of above examination :- Gum-Boro disease (Infectious bursal disease).Remarks (State if viscera and specimens etc. sent for chemical, bacteriological, histopathological and parasitological examination) :- Pieces of bursa fabrecious, liver, gizzard, lungs and heart were collected in 10% formalin and sent to the laboratory.

Results :- Awaited.

Place, where P.M. examination was made :- At Nawadah, Thana - Nawadah.

Date :- 5.5.94

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& Designation of Autopsist

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(73) DEATH DUE TO DROWNING IN A COW

Report of Post-mortem Examination

P.M.No. 73/98 date 05/01/98.

Species :- Bovine (Cow), Colour :- White, Sex :- Female, Age :- 5 years 4 month, Owner :- Sri Shiv ji, Ganesh ji, S/o Sri Anjani Kumar Barial, Advocate, Hanuman Nagar, Patna (Bihar).

By whom sent for examination and reason, if any :- By owner, to know the cause of death.

Date and hour of death :- 10 noon of 5.1.98

Date and hour of P.M. Examination :- 4.15 P.M. on 5.1.98

History :- As reported by owner, the said cow had fallen into a well and died due to drowning in water.

External appearance and internal appearance after removal of skin :- Skin of cow became folded. Open wound & abrasion with blood clot were found on the left side of neck. Abdomen was disteneded or swollen. Rigor-mortis was present in the head, neck and forelegs.

Mouth & Pharynx :- White froathy exudate was oozing from mouth.

Nasal cavities :- Froathy exudate was oozing from nostrils.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- Both lungs were distended or swollen and appeared as sponge. On incision, fluid was oozing from cut parts of lungs.

Pericardium & heart :- Left ventricle of heart showed the presence of semi clotted blood. Veins contained partially clotted blood.

Peritoneal cavity :- N.A.D.

Liver :- N.A.D.

Spleen :- N.A.D.

Stomach & intestine :- Rumen contained about one litre of water. Abomasum also showed the presence of excess fluid.

Urinary organs :- N.A.D.

Generative organs :- Uterus showed the presence of 5 months old dead foetus.

Brain & spinal cord :- Brain was pale.

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Lymph glands in general :- N.A.D.

Blood smears, if sent for microscopic examination :- Impression smears of liver, heart, spleen, lymph nodes, lungs, rumen and intestine were prepared in clean glass slide.

Diagnosis on the basis of above examination :- The said cow died due to asphyxia & shock due to drowning in water.

Remarks :- Pieces of different organs were collected in 10% formalin and sent to the diagnostic laboratory.

Results :- Impression smears were stained and examined under microscope. These smears showed the presence of a few gram positive putrifactive rods.

Place, where P.M. examination was made :- Patna (Bihar).

Date :- 5.1.98

Signature,

Designation of Autopsist

(74) DEATH DUE TO NAVEL ILL IN CALF.

Report of Post-mortem Examination

P.M.No. 74/96 date 17.4.96

Species :- Bovine (Calf), Colour :- Black, Sex :- Male, Age :- About one month, Owner :- Mr. Niraj Barial, S/o Sri Late V.K.S. Barial, Special Security officer, Electricity Board, Patna.

By whom sent for examination and reason, if any :- By owner, to know the cause of death.

Date and hour of death :- 9 A.M. on 17/4/96

Date and hour of P.M. Examination :- 2 P.M. on 17/4/96

History :- As reported by owner, calf showed swelling of naval with high rise of body temperature. Fetlock was swollen. Calf was dull, depressed & off feed.

External appearance :- Calf was emaciated. Muscles were pale, anaemic and sticky to touch. Umbilicus was swollen & on incision, it showed the presence of bloody purulent exudate. Umbilical vein contained semiclotted blood.

Mouth & Pharynx :- Mucosae were anaemic.

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Nasal cavities :- N.A.D.

Larynx & trachea :- N.A.D.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- Both lungs were congested, consolidated and pneumonic.

Pericardium & heart :- Chambers of heart showed the presence of clotted blood.

Peritoneal cavity :- It contained red coloured fluid.

Liver :- Liver was swollen and congested. Surface of liver showed small abscesses containing cream colour pus.

Gall bladder was distended with accumulated thick bile.

Spleen :- Pale.

Urinary organs :- Both kidneys were congested and swollen.

Lymph glands in general :- Mesenteric lymph nodes were highly congested.

Blood smears, if sent :- Impression smears of liver, umbilical swelling, mesenteric lymph node, heart, lungs and intestine were prepared.

Diagnosis on the basis of above lesions :- Navel ill.

Results :- Impression smears were stained which showed the presence of gram positive Cocci and gram negative rods.

Place, where P.M. examination was made :- Patna (Bihar).

Date :- 17/4/96

Signature,

Designation of Autopsist

(75) DEATH OF HORSE DUE TO AFRICAN HORSE SICKNESS.

Report of Post-mortem Examination

P.M.No. 75/69 date 28/6/69

Species :- Equine (Horse), Colour :- Red, Sex :- Male, Age :- About 3 years, Owner :- Sri Saurav Barial, S/o Sri Abhay Kumar Barial, Munsif, Mathura-Kutir, Par-Nawada, Nawada (Bihar).

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By whom sent for examination and reason, if any :- By owner, to know the cause of death.

Date and hour of death :- Night of 27/6/69

Date and hour of P.M. Examination :- 10 A.M. on 28/6/69

History :- As reported by owner, said horse shown the symptoms of rise of body temperature, restlessness and oedematous swelling in different parts of body including head and eye lids.

External appearance :- Eyes were highly congested, oedematous swellings were found in head, temporal fossa and eye lids. Rigor mortis was present in the whole body indicating the expected time of death was about 12 hours back (at about 10 P.M. of 27/6/69). Oedema was also found in neck and brisket.

Mouth & Pharynx :- N.A.D.

Nasal cavities, larynx and trachea :- Mucosae were congested.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- Both lungs were oedematous.

Pericardium & heart :- There were subepicardial and subendocardial haemorrhages. Clotted blood was found in left ventricle of heart.

Spleen :- It was congested.

Stomach and intestine :- N.A.D.

Urinary organs :- Both kidneys were congested.

Generative organs :- N.A.D.

Brain and spinal cord :- N.A.D.

Lymph nodes in general :- N.A.D.

Blood smears, if sent for microscopic examination :- Smears of different organs were prepared and sent to the laboratory.

Diagnosis on the basis of above lesions :- Above lesions suggest that death occurred due to African Horse sickness.

Remarks :- Pieces of liver, lungs, spleen, heart and intestine were collected in 10% formalin and sent to the laboratory for histopathological examination.

(2) Smears of different organs were stained & examined under microscope and were found negative.

Place, where P.M. examination was made :- Nawada (Bihar).

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Date :- 28/6/69

Signature,

Designation of Autopsist

(76) DEATH OF CALF DUE TO COLLIBACILLOSIS.

Report of Post-mortem Examination

P.M.No. 76/97 date 19/3/97

Species :- Bovine, Colour :- Red, Sex :- Female, Age :- About 25 days, Owner :- Sri Manoj C.K. Kothamangalam, Kozhikode (Kerala)

By whom sent for examination and reason, if any :- By owner, to know the cause of death.

Date and hour of death :- 2 A.M. of 19/3/97

Date and hour of P.M. Examination :- 10 A.M. 19/3/97

History :- As reported by owner, said calf had shown the symptoms of diarrhoea, dysentery, dehydration, depression, weakness and rise of body temperature (104oF). Stool of the Calf was white colour and pasty which gave abnoxious odour.

External appearance and after removal of skin :- Carcase was highly emaciated, pale conjunctivae of eyes & skin was loose. Muscles were pale & sticky to touch. Rigor mortis was present in muscles of head, neck & forelegs.

Mouth & Pharynx :- Tongue was parched & dry.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- Lungs were pale.

Pericardium & heart :- Partially clotted blood was present in the left ventricle of heart.

Peritoneum :- N.A.D.

Liver :- Pale and gall bladder contained thick bile.

Spleen :- Swollen.

Stomach and intestine :- The mucosae of abomasum and intestine were congested and covered with mucoid ingesta.

Urinary organs :- Cortex of both kidneys were congested.

Generative organs :- N.A.D.

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Brain and spinal cord :- N.A.D.

Lymph nodes in general :- N.A.D.

Blood smears, if sent :- Smears of intestine, liver, heart, lungs and spleen were sent to the laboratory.

Diagnosis on the basis of above examination :- Colibacillosis (white scour).

Remarks :- Pieces of different organs were collected in 10% formalin & sent to the laboratory.

Results :- E.Coli organisms were isolated.

Place, where P.M. examination was made :- Kozhikode (Kerala)

Signature,

Designation of Autopsist

(77) DEATH OF TETANUS IN A HORSE

Report of Post-mortem Examination

P.M.No. 77/93 date 15/5/93

Species :- Equine (Horse), Colour :- Bay, Sex :- Female, Age :- 5 years, Owner :- Md. Abdul Ansari, Penter Colony, Chennai (T.N.)

By whom sent for examination and reasons, if any :- By owner, to know the cause of death.

Date and hour of death :- 7 A.M. of 15/5/93

Date and hour of P.M. Examination :- 10.15 A.M. of 15/5/93

History :- As reported by owner, the said mare had shown the symptoms of lock-jaw in which mouth was not opened, off feed, rigidity of muscles of body, tetany convulsions, difficult swallowing, laboured respiration and muscles of whole body were firm & rigid. The said mare had suffered with injury of thigh by metalic wire of fence but wound was healed.

External appearance and on removal of skin :- Muscles of mastication were hard, stiff & mouth can not be opened. Similarly, muscles of other parts of body were very hard and rigid due to which all legs were found extended in strait. Abdomen was found distended with gas.

Nasal cavities, Mouth, Larynx & trachea :- N.A.D.

Oesophagus :- N.A.D.

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Pleural cavity & lungs :- Parts of lungs were congested.

Pericardium & heart :- Semiclotted blood was present in the left ventricle of heart.

Liver :- Mildly congested.

Spleen :- N.A.D.

Stomach and intestine :- Excess gas was found in both organs.

Urinary organs :- N.A.D.

Generative organs :- N.A.D.

Brain and spinal cord :- Spinal cord and medulla were mildly congested.

Lymph glands in general :- N.A.D.

Blood or tissue smears sent for microscopic examination :- Smears of different visceral organs were prepared in clean glass slides and sent to diagnostic laboratory for examination and report.

Diagnosis on above examination :- History of symptoms and lesions suggest that said mare died due to Tetanus (Lock-jaw).

Remarks :- Pieces of different visceral organs were collected in 10% formaline and sent to the laboratory.

Results :- Awaited from laboratory.

Place, where P.M. examination was made :- Chennai (T.N.)

Date :- 15/5/93

Signature,

Designation of Autopsist

(78) DEATH DUE TO BRUCELLOSIS.

Report of Post-mortem Examination

P.M.No. 78/98 date 01/01/98.

Species :- Bovine (Cow), Colour :- Gray, Sex :- Female, Age :- 7 years 5 months, Owner :- Joseph Anthony, Mannuthy, Trivendrum (Kerala)

By whom sent for examination and reasons, if any :- By owner to determine the disease.

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Date and hour of death :- Night of 31/12/97

Date and hour of P.M. Examination :- 11.50 A.M. on 1/1/98

History :- As reported by owner, many pregnant cows of his farm aborted after 5-6 months of pregnancy. Foetal membranes and placenta were retained. Brownish coloured fluid was discharging from vagina. One dam died during abortion and sent for diagnosis.

External appearance and on removal of skin :- Putrified fluid was oozing from vulva. Conjunctivae of eyes were congested. Rigor-mortis was present in the whole body indicating that death had occurred 12 to 15 hour earlier in between 8.30 P.M. to 11.50 P.M. of 31/12/97 Muscle of the body was dry and sticky to touch.

Mouth, Pharynx and nasal cavities :- N.A.D.

Larynx and trachea :- Mucous was present.

Oesophagus :- N.A.D.

Pleural cavity & lungs :- Both lungs were mildly congested.

Pericardium & heart :- Endocardium of heart showed petechial haemorrhages. Semi clotted blood was found in the chambers of heart. Right ventricle was dilated with a few subendocardial grayish areas.

Peritoneal cavity :- Peritoneum showed the presence of petchiae.

Liver :- Liver was enlarged in size and congested. Gall bladder contained thick roapy bile.

Stomach & intestine :- Rumen was distended with gas.

Urinary organs :- N.A.D.

Generative organs :- Endometrium of uterus was thickened with grayish white Foci. Foetal cotyledons appeared as leathery & grayish white patchy areas. Chorium was thickened.

Brain & spinal cord :- Not opened.

Lymph glands in general :- Supra-mammary lymph glands were enlarged and swollen.

Tissues smears for microscopic examination :- Smears of endometrium, heart, lungs, spleen & stomach contents of aborted foetus were sent to laboratory.

Diagnosis on the basis of above examination :- Brucellosis.

Remarks :- Pieces of visceral organs were sent to the laboratory in

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10% formalin for examination.

Place, where P.M. examination was made :- Trivendrum (Kerala).

Date :- 1.1.98

Signature,

Designation of Autopsist

(79) VETERINARY CERTIFICATE FOR CLAIM OF INSURED ANIMALS.

(For Insurance Companies)

When death of insured cattle and other livestock occurs, Insurance company gives a form to owner of said animal to be filled up by the Veterinarian who had treated and conducted post-mortem examination. Practicing veterinarians should know the technique of filling this form because correct answers of questions of this form, replied by veterinarians, help the Insurance company to take final decision upon the claim for payment of insured money.

Example No. - I :-

Following is the example of technique of filling this form of insured cow died due to Theileriasis :-

Veterinary Certificate regarding Livestock & Cattle Claim.

In the first paragraph of this form, Veterinarians are required to give Certificate such as "I hereby Certify that the animals described below the property of Shree (Name of owner, as for example) Shree Ram Prasad Singh Son of Late Murli Prasad Singh, Address - Kankarbagh, Post Office :- Agam Kuan, Distt. - Patna died on date :- 5th, Month - January, Year - 1998, and that I attended (treated) the said animal from :- 30/12/97 to 5/1/98

In second Paragraph of this form, description of animal is to be mentioned, example :-

Sex Species of animal Breed Colour Marks Age Value prior to illness/or accident

Female Bovine (Cow) Cross breed (Friesian) Mix-Colour of Black and White Tag no. 17/93 5 yrs. Rs. 12000 = 00

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In third paragraph of this form, Veterinarians are required to mention the cause of death and diagnosis of disease etc such as :-

(1) Did you make a post-mortem ? If so, give detailed report on company's prescribed postmortem report form

Yes. Post mortem report is attached.

(2) Cause of death ? (Note :- In this column, Veterinarians should mention the exact cause of death such as respiratory or heart failure and important symptoms shown by animal during treatment.

Said cow died due to pulmonary oedema & dyspnea associated with bloody diarrhoea, dehydration and anaemia.

(3) If from disease, how do you account for it. ? (State name of the disease in Block letters).

THEILERIASIS. (Diagnosis was made on the basis of symptoms and post-mortem lesions. It is a protozoan disease but vaccine is not available against this disease).

(4) If from accident, where did it occur and nature of injuries ?

No. (Cow died due to disease.)

Note :- ***For Veterinarians :-***

If death occurs by accident, then, mention in this column the address & location of accident and nature of injury, as for example:-

Note :-

Accident occurred by heavy vehicle (Bus) at Village - Ram Nagar, P.O. - Gaya, Distt. - Gaya, Nature of injury was very severe causing fracture of neck of the head of right femur. Last two thoracic vertebrae (12th & 13th) were broken into pieces and boney specules were penetrated through the spinal cord.

Peritoneal cavity contained about four ounces of blood clot. Death occurred due to haemorrhage and shock due to extensive injury).

(5) If from an operation, give date and nature ?

No. (Cow died due to disease)

(Note of veterinarian :-

If death occurred during or after operation then maintion the nature and date of operation, as for example :-)

(**Note** :- Caesarean section operation was done on 4/1/98 but cow died on 5/1/98. Then P.M. examination was conducted of said cow

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on 5/1/98)

(6) Had the animal every care and attention.

(6) Yes, every care and attention of said cow were made. Proper treatment was done from 30/12/97 in Veterinary hospital vide out door register case no. 235 dated 30/12/97 but cow died on 5/1/98.

(7) Did you examine for insurance and do you identify the animal ?

(7) Yes, I had examined the said cow for insurance and I identify the said cow, during treatment and P.M. examination.

(Note for veterinarians :- If you have not examined the said animal for insurance then you please mention - No.)

No.

(8) (a). If animal has not died, describe the nature of injury or disease (In block letters) and state when it occurred and its duration.

The said cow died due to disease.

(b) Has the injury or disease resulted in permanent incapacity to conceive or yield milk ?

Cow died.

(c) Did you treat the animal for injury or disease ? And if so what was the nature of treatment given to prevent the permanent incapicity to conceive or yield milk.

Proper treatment was done, but cow died.

In third paragraph of this form, veterinarian is required to give his address, qualification, registration number of veterinary council of India, his signature with date and P.M. report with lesions of different organs seen during Post mortem examination, as for example :-

I hereby warrant the truth of my answers respecting the above animal death and I know of no material information which has been withheld.

Signature :-

S. Anthony

Address :- Veterinary Asstt. Surgeon
Veterinary Dispensory,
Kankarbagh, Patna.

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Qualification :- *B.V.Sc. & A. H.*

Regd. No. - 0000139 of V.C.I.

Date :- 12/1/98

POST MORTEM REPORT

Species - Bovine (Cow), Breed - Cross breed, Colour - Mix black and white, Sex - Female, Age - 5 years, Owner - Shree Ram Prasad Singh S/o Late Murli Prasad Singh, Kankarbagh, Agam Kuan, Patna.

Date and hour of death - 8 A.M. on 5/1/97; P.M. examination was done at 11 A.M. on 5/1/97. Animal was emaciated, anaemic, Eyes were pale and muscles were atrophied, pale and sticky. Subcutaneous fat was jelly like. All lymph nodes including prescapular lymph nodes were congested and enlarged in size. Petechial haemorrhages and ulcers were found in mucosa of abomasum. Liver & spleen were swollen. Pin point haemorrhages were found on different organs. Smears of lymph nodes showed the presence of Koch's blue bodies.

Diagnosis :- The cow died due to theileriasis.

Place of P.M. examination :- Kankarbagh, Patna on 5/1/98

Sd/-

S. Anthony

Signature,

V.A.S. Veterinary Dispensory,

Kankarbagh, Patna - 20.

Note :- Post Mortem report of this form should be written correctly, as seen during post mortem examination. In this book, examples of post mortem reports of several diseases are given. Veterinarians will gain knowledge from these reports for writing post mortem report in this form because important lesions, of different organs of dead animal, are to be mentioned in this form. It is well known that insurance company may not pay the claim money, if proper treatment and care are not taken during illness of insured animal. Similarly, if

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death occurs due to infectious disease for which vaccine is available, then also claim money may not be paid by insurance company. These rules of Insurance Company should be known to all veterinarians.

Hence, column no. 2,3,6,8 and post mortem report of this form of Insurance company should be written or replied very correctly and clearly to help Insurance Company to decide for final payment of claim money.

EXAMPLE NO. - 2. FOR VETERINARY CERTIFICATE REGARDING INSURANCE CLAIM :-

(For Insurance Company)

Suppose, a dead Tharparkar breed of white colour cow, aged about 6 years was brought to Veterinary hospital, Nagpur by its owner, Sri Rahul Chinchalkar C/o Sri Sudhir Dagaonkar, Rajendra Nagar, Nagpur on 10/2/98 for post mortem examination. The owner reported that the said cow died suddenly at 11 A.M. on 10/2/98. The cow was insured for Rs. 15000/-

Veterinary Surgeon of the hospital conducted P.M. examination of dead cow at 1 P.M. on 10/2/98. The important P.M.lesions were as follows :- Rigor-mortis was present in muscles of head & neck. Fluid was oozing from mouth. Heart was covered with blood stained fibrous and vascular tissue. Pericardial sac distended with fibro-purulent fluid. Heart was hypertrophied. Wall of reticulum, diaphragm and pericardium were adhesive lesion containing 8 inch long metallic wire (Nail) piercing from reticlum to pericardium. Liver was pale. Other organs did not show abnormalities. Diagnosis was made as Traumatic pericarditis.

As mentioned above, Cow was insured, hence, form supplied by insurance company, is to be filled up by Veterinary surgeon. Filled form of above cow is as follow :-

INSURANCE COMPANY LIMITED

(Regd. Office :- Baily Road, Calcutta - 700352)

Veterinary Certificate regarding animal claim.

I hereby certify that animal described below the property of :- Shree Rahul Chinchalkar, C/o Sri Sudhir Dagaonkar, Address :- Rajendra Nagar, Nagpur - 14 (M.S.)

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Died on Date :- 10th, Month :- 02, Year :- 1998 and that I attended the said animal from :- 11 A.M. of 10/2/98 to 1 P.M. of 10/2/98.

Description of Animal

Sex Species Breed Colour Marks Age Value prior to illness/or accident

Female Bovine (Cow) Tharparkar White Tag no. 17/94 6 yrs. Rs. 15000 = 00

(1) Did you make a post-mortem examination ? If so, give detailed report on company's prescribed postmortem report form.

Yes. Post mortem report is attached.

(2) Cause of death ?

Death of cow occurred suddenly due to injury of heart, diaphragm and reticulum.

(3) If from disease, how do you account for it. ? (State name of the disease in Block letters).

TRAUMATIC PERICARDITIS. This disease was diagnosed by P.M.examination.

(4) If from accident, where did it occur and nature of injuries ?

Cow died suddenly due to disease.

(5) If from an operation, give date and nature of operation ?

No. Death did not occur due to operation.

(6) Had the animal every care and attention ?

Yes, every care and attention were taken for said cow.

(7) Did you examine for insurance and do you identify the animal ?

Yes, I had examined said cow for insurance and I identify this animal during autopsy.

(8) (a). If animal has not died, describe the nature of injury or disease (In block letters) and state when it occurred and its duration.

The said cow died.

(b) Has the injury or disease resulted in permanent in incapicity to conceive or yield milk ?

Cow died.

(c) Did you treat the animal for injury or disease and if so what was the nature of treatment given to prevent the permanent incapicity

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or yield milk ?

Treatment was not done because cow died suddenly due to severe lesions of heart and reticulum.

I hereby, warrant the truth of my answers respecting the above animals death and I know of no material information which has been withheld.

Signature :-

Sd/-

S. Chaukse,

Qualification :- B.V.Sc. & A. H; M.V.Sc.
Address :- Veterinary Hospital, Nagpur.
Regd. No. - 0000321. Date :- 17/2/98

POST MORTEM REPORT

Species - Bovine (Cow), Colour - white, Sex - Female, Age - 6 years, Owner - Shre Rahul Chinchalkar C/o Sri Sudhir Dagaonker, R. Nagar, Nagpur (M.S.)

Time and date of death - 11 A.M. on 10/2/98.

Time and date of P.M. examination :- 1 P.M. on 10/2/98.

History :- As reported by owner, cow died suddenly. The Rigor-mortis was present in head and neck. Heart was covered with blood stained fibrous and vascular tissue.

Pericardial sac was distended with fibro-purulent fluid. Heart was hypertrophied with fibro purulent fluid. Wall of reticulum, diaphragm and pericadium were adhesive lesions containing 8 inch long metallic wire (nail) piercing from reticulum to pericardium. On the basis of above lesions, death of said cow occurred due to **Traumatic pericarditis.**

Place of P.M. examination :- Veterinary Hospital, Nagpur (M.S.)

Sd/-

S. Chaukse

Veterinary Surgeon

Veterinary Hospital, Nagpur (M.S.)

Copy forwarded to Insurance Company Limited, Baily Road, Calcutta - 52 for necessary action.

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CHAPTER-5

COLLECTION OF MATERIALS FOR LABORATORY EXAMINATION

There are many pathological or diagnostic laboratory located at either district head quarter or divisional head quarter and at the capital of state. These laboratories are well equiped. Doctors or autopsists are required to collect the materials from living or dead individual and to send these materials to the nearest laboratory for examination and report so that preventive measures can be taken.

In all cases, it must be remembered that materials are sent for laboratory examination as soon as possible after collection. Suitable preservative may be used while transporting the materials to the laboratory. Different preservatives are required for different tests. These preservatives are as follows :

(1) For histopathological examination, 10% Formal saline solution is needed. (2) For virological examination, 50% glycerine saline solution is required. (3) 70 percent alcohol is used for preservation of parasites. (4) Heparin is used as anticoagulant of blood. (5) No preservative is used for bacteriological examination.

Autopsists should know the materials to be collected during post mortem examination. Collection of tissue may differs from disease to disease. Examples, Brain and spinal cord are collected in Rabies. Pieces of lungs in case of pneumonia, pieces of liver in case of hepatitis, pieces of kidneys in cases of nephritis are collected.

COLLECTION OF MATERIALS IN DIFFERENT DISEASES OF ANIMALS

(1) During post-mortem examination, impression smears of different organs like heart, lungs, spleen, lymph nodes, liver, intestine etc. are prepared. For preparation of impression smears, organs should be cut by knife and slides are touched on the wet portion of the cut part of the organ. Dry the slide and write the name of organs on the slide by red and blue pencil. If any organ is showing lesion, it is necessary to prepare the impression smears of

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CHAPTER - 3

POST-MORTEM LESIONS OF DISEASES

As described earlier, disease is a condition in which deviation from normal occurs inside the body of an individual. When tissue damage is very great than basic function required for life can not be maintained and death of an individual takes place. These deviations or tissue damage cause alterations in one or more organs of the body. Alteration of different organs of dead animal, seen by naked eyes during post-mortem examination, is called as post-mortem lesion or gross lesion.

During post-mortem examination, lesions or alterations of organs of dead animals are detected and diagnosed such as deviation in size, shape, colour, consistency, presence of cysts, growths, depression, abscess and appearance of cut surface. These post-mortem lesions help in giving tentative diagnosis, immediately after P.M. examination, but confirmation of diagnosis is made in the laboratory with the help of microscopic examination. Hence, it is very necessary to send materials of dead animals to the diagnostic laboratory for bacteriological, parasitological & histopathological examinations.

Post-mortem lesions are very important for diagnosis. Practicing veterinarians should know these lesions of different diseases.

Postmortem lesions of the following Pathological conditions are given below :-

(1) Congestion	(2) Haemorrhage	(3) Oedema
(4) Infarction	(5) Shock	
(6) Hypertrophy	(7) Metaplasia	(8) Anaplasia
(9) Aplasia	(10) Atrophy	(11) Anomalies
(12) Injury	(13) Heat-stroke	
(14) Degenerations	(15) Calcification	(16) Pigmentation
(17) Necrosis	(18) Gangrene	(19) Inflammation

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(20) Bone	(21) Pneumonia	(22) Pleuritis
(23) Atelectasis	(24) Emphysema	(25) Pericarditis
(26) Splenitis	(27) Gastritis	(28) Intussusception
(29) Enteritis	(30) Hepatitis	(31) Ascitis
(32) Nephritis	(33) Calculi	(34) Pyometra
(35) V.G.	(36) Retain placenta	(37) Abortion
(38) Mastitis	(39) Milk Fever	(40) Downer cow
(41) Electrocution	(42) Snake-bite	(43) Drowning
(44) Heat Stroke	(45) Cystic ovary	(46) Prostatitis
(47) H.S.	(48) B.Q.	(49) B.B.H.
(50) Braxy	(51) Tetanus	(52) Botulinism
(53) Brucellosis	(54) Glanders	(55) Leptospirosis
(56) Actinomycosis	(57) Actinobacillosis	(58) T.B.
(59) F.M.D.	(60) Distemper	
(61) Canine hepatitis	(62) Rabies	(63) Rinderpest

(64) African Horse sickness (65) Equine encephalomyelitis
(66) Scrapie (67) Pseudo-rabies (68) Hog-cholera
(69) Erysepelas (70) Gom-boro disease
(71) Ranikhet disease (72) Avian encephalomyelitis
(73) Aspergillosis in poultry (74) A.L.C. (75) Marek's disease
(76) Bacillary White diarrhoea (77) Fowl cholera
(78) Fowl typhoid
(79) Vitamin-A deficiency in chickens.
(80) Coccidiosis in poultry (81) Black-head disease of turkey
(82) Gape-worm disease (83) Surra (84) Dourine
(85) Kala-azar (86) Bovine trichomoniasis (87) Giardiasis
(88) Amoebiasis (89) Human malaria (90) Babesiasis
(91) Theileriasis (92) Balantiosis (93) Coccidiosis in calf
(94) Coccidiosis in rabbit (95) Coccidiosis in sheep and goat
(96) Anaplasmosis (97) Ascariasis in animals
(98) Strongylosis in horses. (99) Oesophagostomiasis
(100) Hook-worm disease (101) Strongyloides

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(102) Haemonchosis (103) Verminous pneumonia
(104) Dirofilariasis (105) Habronemiasis
(106) Spirocercosis (107) Trichinosis of pig
(108) Diactophymosis of dog (109) Stephanurosis
(110) Liver fluke infection (111) Paramphistomiasis
(112) Schistosomiasis (113) Tape-worm infection and
(114) Gid (115) Heart failure (116) Icterus
(117) Drowning (118) Peritonitis (119) Flourine poisoning
(120) Copper poisoning (121) Sodium chloride poisoning
(122) Lead poisoning (123) Selenium poisoning

Post-mortem lesions :-

(1) Congestion :-

The affected part become swollen & bluish red colour. Considerable amount of blood oozed from cut surface, or red colour fluid escapes. This condition occurs due to excess accumulation of blood in any part of vascular system.

(2) Haemorrhage :-

Presence of dot of blood (red colour) below one m.m. diameter on the surface of an organ is petechial hemorrhage. When these red colour dots are larger in size then they are called as ecchymoses. When there is tumor like enlargement containing blood, then it is hematoma or hematocyst. When there is blood clots in the body cavities or in the tissue present considerable amount then it is general haemorrhage indicating injury. Haemorrhage means escape of blood from vascular system in living animals.

(3) Oedema :-

It is an increased accumulation of fluid in interstial tissues & body cavities.

Affected tissues are swollen having firm and doughy consistency. It pits on pressure means when finger is pressed into the oedematous tissue, pit is formed which remains for a moment because on pressure, fluid is dispersed into the surrounding tissue. After removal of finger, time interval is required for the fluid to

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return back. Fluid of oedema is called as transudate.

The swollen oedematous part is cooler without redness & pain. On incision, pale yellow colour fluid oozed on pressure. There are several terms used to oedema on the basis of different kinds of tissue involved.

They are as follows :-

(a) Dropsy :- An accumulation of fluid (transudate) in serous cavities is called as dropsy

(b) Anasarca :- An accumulation of fluid in subcutaneous tissues is called as anasarca.

(c) Ascitis :- Accumulation of fluid in peritoneal cavity.

(d) Hydropericardium :- Collection of fluid in pericardial cavity means hydropericardium.

(e) Hydrothorax :- An accumulation of fluid in the thoracic or pleural cavity is known as hydrothorax.

(f) Hydrocephalus :- An accumulation of fluid (transudate) within skull (cranial cavity) is called as hydrocephalus.

(g) Hydrocele :- An accumulation of fluid (transudate) in the sac of tunica vaginalis is known as hydrocele.

Note :- Fluid of oedema is called as transudate and fluid of inflammation is called is exudate. Transudate is watery thin fluid, contains low protein content below 3 percent. It is pale strow colour sterile fluid. Exudate is thick fluid containing high protein contents (more than 4 percent), leucocytes & bacteria. Colour of exudate usually, becomes red due to presence of blood.

(4) Infarction :-

It is an area of necrosis caused by ischemia due to complete obstruction of end artery. It may be (i) pale & white or (2) red and hemorrhagic. The necrosed infarcts may be a few millimeters to several centimeters, roughly wedge shaped or cone shaped appearance in which apex is located at the point of occlusion and the base is directed towards the surface of the organs. The infarcts lesions in spleen, heart & intestine are red or hemorrhagic type but infarcts in kidneys and brain are pale and anaemic type.

(5) Shock :-

It is an acute peripheral circulatory failure. In shock, the

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volume of the circulating blood is not adequate to fill the space in the vascular system and the heart does not get sufficient blood to fill its cavities. It occurs due to diversion of blood in to capillaries or in cases of severe haemorrhage or in burns releasing histamine into circulation from extensive traumatic & inflammatory changes in the tissues.

Histamine causes arterial contraction & dilatation of capillaries. each dilated capillary holds more blood then normal resulting in presence of inadequate blood in the general circulation & heart. Shock is two types namely, Primary shock and secondary shock.

The main post-mortem lesions are severe congestion (redness) of lungs, liver & intestine, ischaemic state or paler colour of pripheral parts of the body, oedema and hemorrhages of lungs & intestine, accumulation of excess red colour fluid in all cavities of body, empty chambers of heart, degenerative changes of different viscreral organs and pale or anaemic mucous membrane.

(6) Hypertrophy and Hyperplasia :-

In both conditions, increase in size of affected tissues or organs takes place. When ever, increase in size, volume and in weight are found in any organs or tissues, it should be diagnosed as hypertrophy or Hyperplasia.

(7) Metaplasia :-

It is a condition in which there is conversion of one type of tissue into another type. During P.M. examination, bony spicules are found in lungs, kidneys and mammary glands.

(8) Anaplasia :-

It is reversion of mature cell in to emryonic type of cell due to rapid mitotic divisions. This conditions is mostly found in tumor and in cancer, seen under microscope.

(9) Aplasia :-

It is the complete failure of an organ to develop. During P.M. examination, there is a total absence of a tissue or organ. Aplasia is generally seen in one of pair organs (Adrenal, Kidney or testicle) example, occasionally one kidney may be absent but the surviving kidney will be highly enlarged in size due to compensatory hypertrophy.

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(10) Hypoplasia & Atrophy :-

Hypoplasia is a condition in which there is failure of tissues or organs to develop to their normal size but atrophy is a condition in which there is diminition in size of tissues or organs that had reached their full or mature size.

The main post-mortem lesions of both conditions are (i) reduction in size, weight, volume and in measurement (ii) Colour may lack intensity & becomes fish flesh appearance.

In starvation, there is wasting of fat and glycogen of whole body affecting adipose tissue & muscles tissues. Whole body become thin. Muscles of the body become atrophied. Ribs are prominent.

(11) Anomalies :-

Some time during autopsy one or part of organ is found absent then terms used as :-

(a) **Aplasia** :- Absence of an organ or part of an organ.

(b) **Acrania** :- Absence of most or all of the bones of the cranium.

(c) **Anecephala** :- Absence of brain.

(d) **Hypocephala** :- Incomplete development of brain.

(e) **Hemicrania** :- Absence of half brain.

(f) **Exencephala** :- Defective skull with brain exposed or extruded.

(g) **Agnathia** :- Absence of lower jaws.

(h) **Anophthalmia** :- Absence of one or both eyes.

(i) **Abrachia** :- Absence of limbs.

(j) **Abrachia** :- It means absence of limbs.

(k) **Abrachiocephalia** :- It means absence of fore leg & head.

(l) **Dextrocardia** :- It refers to transportation of the heart to the right side of thorax.

(m) **Ectopia-cordis cervicalis** :- It means displacement of heart into neck.

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(n) **Teratomas** :- It is neoplasms arising from faetal residues. Dermoid cyst and dentigerous eysts are example of teratomas.

(o) **Monsters** :- It is disturbance of intrautrine development which is characterised by great distortion of an individual. The born baby has duplication of all or most of the organs such as two heads, four fore-legs, four hind limbs etc. Twins may born united which may be anterior or posterior fusion of twins and appear as Giant.

(P) **Hermaphrodite** :- It refers to those animals which have both sexes (testicular & ovarian tissues).

(12) Injury :-

Physical or mechanical trauma causes injury to any part of the body. Following are the terms, used according to the injury, found in the affected tissues :-

(i) **Contusion** :- It is an injury in which the integument is not broken but the underlying tissues are injured, blood vessels are broken & haemorrhage occurs in the surrounding tissues.

(ii) **Abrasion** :- It is similar to contusion but in abrasion, integument is also broken.

(iii) **Incision** :- It is long, smooth, narrow & clean type of wound caused by a sharp object such as knife, example, operation.

(iv) **Laceration** :- It is a wound in which there is tearing of the tissues & caused by blunt object. Example, automobile accident.

(v) **Perforation** :- It refers to those wounds in which the point of entry of the mechanical force is narrow. Example, bullet or nail injury.

(vi) **Fracture** :- It is the injury of hard tissues (bone, tooth, hoof, horns) in which continuity of hard structure is broken. When, continuity of bone is disturbed but skin is not broken in fracture of bone then it is called as simple fracture when skin is also broken in fracture, then it is called as compound fracture. When fracture is incomplete and the bone is bent, it is termed as greenstick fracture, generally occurs in young animals. When bone is broken into numerous fragments, then it is called as comminuted fracture, generally, found in horses. When the impact of injury drives one portion of bone into another bone it is called as impacted fracture.

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(vii) **Rupture** :- It is an injury of tissues in which tissues are stretched & broken. Example, rupture of urinary or gall bladder, capsule of kidneys or muscles, tendons and ligaments.

(viii) **Concussion** :- It refers to disturbance of central nervous system with or without unconscious due to severe injury of head.

(ix) **Sprain or strain** :- It refers to injury to a joint in which ligaments of joint are stretched or torn slightly.

(x) **Dislocation** :- It refers to injury to a joint in which there is displacement of bones & ligaments are damaged.

(xi) **Volvulus** :- It is a rotation of an organ, example, small intestine around its mesenteric attachment.

(xii) **Torsion** :- It refers to twisting of an organ, example, large intestine of horse or uterus of cow.

(xiii) **Intususception** :- It is a condition in which there is telescoping or an invagination of one portion of the intestine into the immediate posterior part of intestine.

(xiv) **Prolapse** :- It is a condition in which an organ or a portion of an organ appears at natural or artificial body opening. Examples. prolapse of uterus through vulva or protrusion of rectum through anus.

(xv) **Hernia** :- It refers to protrusion of an organ through a natural or artificial body opening in the wall of the cavity which contains it, examples, cerebral, inguinal, ventral, umbilical or diaphragmatic hernia.

(13) Heat stroke :-

It occurs due to overheating. The important P.M. lesions are as follows :- Skin becomes red, blood clots very slowly, dilatation of right chambers of heart, congestion and haemorrhages of lungs, kidneys, liver & brain.

(14) Degenerations :-

Disturbance of cell metabolism is called as degeneration. It is caused by injury to cells.

The degenerative changes are :- (a) cloudy swelling, (b) hydropic degeneration (c) fatty degeneration (d) mucinous degeneration (e) mucoid degeneration (f) hyaline degeneration and (g) fatty degeneration.

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P.M. Lesions of degenerations :- The affected organ is swollen and slightly enlarged in size and in weight. Edges are rounded. Normal colour is changed to pale and anaemic. When incised, the organ is cut very easily and bulges. Capsule is removed very easily.

(15) Calcification :-

It is refer to deposition of calcium salts in tissues other than bone. General and local calcifications are types of calcification.

P.M.lesions :- Larger amounts of calcification appear as white, yellow-white, or grey chalky masses in the organs or tissues. Affected organs become hard and firm in consistency. On incision, gritting sound appear as if knife is moving in bag contains sand.

(16) Pigmentation :- It refers to deposition in which colouring substance is found within the tissues. This colouring substance is called as pigment, examples, melanin, hemoglobin, bile pigment. Pigmentation is two types, namely, (i) endogenous in which pigment is formed inside the body such as melanin and (ii) exogenous pigmentation in which pigment comes from out side body such as carbon, caroteres.

It is known to the autopsist that living body contains red colour pigment which is known as hemoglobin. it is found in the red blood cells. Due to presence of hemoglobin, blood appears as red. In the arterial side of circulatory system, hemoglobin of erythrocytes contain oxygen (oxyhaemoglobin) due to which blood of arteries is deep red colour but blood of venous side of vascular system is bluish red because hemoglobin of erythrocytes contain carbon di-oxide (carboxy-hemoglobin).

During P.M. examination, if any part, tissue or organ appears as reddish or bluish red colour, it must be due to presence of excess amount of blood either due to congestion or due to haemorrhage, example, acute inflammation of different organs.

Similarly, yellow colour pigment present in the body is bile pigment. It is present in the liver. During autopsy, if any part of the body appears as yellow, it should be diagnosed as bile pigment example, jaundice.

Third important pigment of body is malanin. It is a protein in nature and is produced from tyrosine. The melanoblasts of basal layers of skin, convert tyrosine into melanin which is a black colour

pigment. This melanin imparts colour to skin, hair, retina & iris. When there is excess melanin, the colour of the skin becomes deep black. There is a condition known as **"Acanthosis nigricans"** in which there is an increased amount of melanin within the skin of ventral abdomen and medial surface of the legs which is always associated with hyperkeratosis of skin.

During P.M. examination, excess melanin appears as black or brown. When melanin is completely absent, then colour of whole skin, iris, retina and choroid are pink or white & condition is called as "Albinism". Similarly **"leukoderma"** term will be used when focal area of skin appears as complete white due to lack of melanin.

Iron pigment found in the body is called as hemosiderin. It is formed inside the phagocytic cells in which phagocytosed erythrocytes are metabolised into globin, haematoidin and hemosiderin. This hemosiderin pigment always found inside the macrophages. When macrophages containing hemosiderin are found in the lung in chronic passive congestion, then these phagocytic cells of lungs are called as **"Heart failure cells"**. The colour of affected lungs becomes brown & appear as indurated due to fibrosis and thats why these lungs are called as **"brown-induration of lungs"**.

Haematoidin is a break down product of heme, generally found at the site of haemorrhage. Haematoidin stains the tissue yellow or green. "Pink tooth" condition occurs due to presence of porphyrin pigment in the tooth & bones, causing them into brownish-pink colourisation.

After death of an animal, body is undergoing autolysis and putrifaction. The erythrocytes of blood disintegrate due to which hemoglobin diffuses out from these disintegrated erythrocytes and stains the blood plasma and surrounding tissues. This is termed as **"Post-mortem inbibition with hemoglobin"**.

During autopsy, haemorrhage & hyperemia must be differentiated with inbibition with hemoglobin. Autopsists should know that haemorrhage originates from one or more focal points & causes some distorsion of tissue due to volume of blood clots but imbibition occurs as a diffuse staining of the tissue along the course of blood vessels & does not originate from one or more focal points & it does not cause distortion of tissue.

Similarly, in hyperemia, blood is found inside the blood

vessels but in inbibition, hemoglobin is diffused outside the blood vessels, causing staining to the surrounding tissues.

As mentioned earlier, body of dead animals undergoes autolysis & putrifaction. Autolysis is the digestion of tissues by their own cellular enzymes (lysosomal enzymes). Putrifaction is the decomposition of tissue by bacterial enzymes (putrifactive bacteria). Due to these changes, colour of the tissues of body become green, gray or black. This changes of colour of the tissues of body become green, gray or black. This changes of colour of decomposed carcass occur due to formation of iron sulfide. The bacterial putrification of dead tissues liberates hydrogen sulfide. This hydrogen combines with iron, (liberated from disintegrated erythrocytes) form hydrogen sulfide which colourise the putrified tissue as blue or black colour. Decomposed carcass also gives disagreable putrid odour due to presence of hydrogen sulfide. The fermentation process which takes place within the tissue due to invasion of putrifactive bacteria, produce gas.

Hence, in putrified carcass, numerous gas bubbles are found within the tissue. The stomach and intestine are found distended with gas.

During post-mortem examination, autopsist must differentiate the hypostatic congestion which occur at the time of death or after the death. Agonal congestion occurs at the time of death. The failing heart prior to death is no longer able to maintain blood pressure and blood accumulates in the veins of ventral parts of the body.

The post-mortem congestion occurs after death in which heart ceases to beat, there is no force which will maintain the circulation of the blood and overcome gravity. This result into accumulation of blood in the ventral parts of the dead bodies.

Imbibition of bile occurs in the surrounding tissues of gall bladder after death in which cholebilirubin diffuse causing yellow colourisation of tissue. If post-mortem examination is conducted after long interval of death, rupture of wall of stomach, intestine and diaphragm may occur due to excessive accumulation of gas. Similarly, displacement of internal organs like intestine ,may take place in the dead body if it is rolled over or moved from place of death to the place of post-mortem examination. Hence, autopsists must differentiate between rupture & displacement occurring after

death and before death (living).

It is well known that during life (before death) there is blood circulation occurring in entire body. If rupture or displacement occurs during life, the affected organs will show the changes of hyperemia or haemorrhage with blood clots. If it occurs after death, there will not be hyperemia or haemorrhage.

Anthracosis is the important exogenous pigmentation in which carbon in form of coal dust are deposited in the tissues particularly in coal mines localities. Affected tissues & lungs become black or show black spots.

(17) Necrosis :-

Death of tissues or cells in the living animals is called as necrosis.

P.M.lesions :- The necrosed tissues appear as white gray, yellow or tan in colour. They appear, as if cooked or coagulated & stand out distinct from surrounding normal tissues. The boarders of necrosed tissues are surrounded by raised congested zone of inflammation. The dead tissue is quite fragile & breaks easily if handled.

During autopsy, differentiation should be done between necrosis and post-mortem autolysis. This problem is usually decided at the start of autopsy by knowing how long the animal has been dead and the status of carcass.

(18) Gangrene :-

It is invasion and putrifaction of necrotic tissue by saprophytic bacteria. Gangrene is two types namely, dry gangrene affecting extremities (tail, ear, legs) and moist gangrene affecting internal organs (lungs & intestine).

Changes in tissues of gangrene and putrifaction are same. Only difference is that gangrene occurs in living body and putrifaction occurs in dead body. Hence, lesions of gangrene can only be diagnosed if post-mortem is done immediately after death and carcass is fresh.

Post-mortem lesions :- In dry gangrene, affected part appears as dry, shrived and mummified. The colour may be brown, gray or black. There is a swollen, sharp line of demarcation between gangrenous and non-gangrenous parts.

In moist gangrene, which occurs in the intestine, lungs & mammary glands, offensive odour is found. The colour may be red gray or black. Affected tissues contain abundance of gas & moisture, but there is no line of demarcation between necrosed and non-necrosed tissues.

(19) Inflammation :-

Vascular & cellular reaction to an irritant, in living body, is called as inflammation.

(i) **Serous inflammation :-** Watery fluid is found present in serous cavities or tissue spaces. The fluid resembles blood plasma. Affected organs are congested.

(ii) **Fibrinous inflammation :-** When principal constituent of exudate is fibrin, it means, it is fibrinous inflammation.

The affected tissues are firmer and tenser than normal due to presence of fibrin, example, accumulation of fibrin in the lungs parenchyma, lungs become firm and dense, resembling liver, Serous and mucous surfaces show the presence of dense and tough layer of fibrin.

The layer looks like a white or yellowish sheet, Masses of fibrin sheet are classified into two types namely pseudomembrane or croupous membrane and diphtheritic membrane. The pseudomembrane is peeled off from surface easily, leaving intact epithelial membrane but diphtheritic membrane is quite firmly attached to the underlying tissues, it can not be removed, without tearing the tissue.

(iii) **Purulent inflammation :-** When pus or purulent exudate is found in tissue, it is purulent or suppurative inflammation.

The main lesions are the presence of pus. Pus may be red, yellow, white green, black or green depending upon the species of animal & etiological agent. This pus may be thin & watery or creamy, thick or granular.

Autopsist should use correct terms to describe various alterations occur in tissue due to suppurative inflammation.

These terms are as follows :-

(a) **Abscess** :- It is a focal purulent inflammation. Abscess is surrounded by a thin wall (pyogenic membrane). Abscess is found protruded to the exterior. On incision, abscess shows the presence

of yellow or red coloured pus. The tract through which the content of the abscess is discharged to the exterior is called as sinus or fistulous tract.

(b) **Pustule** :- It is a small focal area of purulent inflammation in the epidermis of skin.

(c) **Carbuncle** :- it is a focal area of purulent inflammation found in subcutaneous tissue which discharges pus to the exterior through several sinus tracts.

(d) **Errosion** :- It is a defect in the epithelium in which there is a loss of superficial cell layer but the basal cell layers are found intact.

(e) **Ulcer** :- It is a focal area of purulent inflammation of skin or mucous membrane in which there is loss of entire epithelium and the base of ulcer lies in the subcutaneous or submucosa.

(f) **Empyema** :- When pus is found accumulated in peritoneal or pleural cavity, this condition is termed as empyema.

(g) **Pyorrhea** :- Accumulation of pus in the gum.

(iv) **Haemorrhagic inflammation** :- In this, the exudate formed is rich in red blood cells & red colour.

The lesions are, the presence of bloody coloured fluid or semifluid in the mucous surfaces and in tissue spaces. Affected part is red surfaces. Foamy blood escapes from mouth and nose.

(v) **Catarrhal or mucous inflammation** :- In this condition, the exudate contains mucin. The lesions are the presence of clear, slimy mucin containing fluid in the mucous membrane.

(20) Diseases of bone :-

When there is failure of adequate deposition of calcium in the bones of growing animals, condition is called as rickets. This condition in older animals is termed as osteomalacia.

During autopsy, lesions are the enlargement of the ends of the long bones and of the costochondral articulation. The bones are abnormally soft and can be cut with knife. This can be determined by slicing a rib with a knife. Similar change in the bone is found in a pathological condition, called as fibrous osteodystrophy which occurs due to continuous absorption of calcium from bone due to excessive production of parathyroid hormone. In this condition also, larger bones become softer, flexible and deformed. They are cut

with a knife.

Some time, bony growth is found in bone particularly in second or first phalynx (ring bone) or in second and fourth metacarpal (splints). Bony growth is frequently seen on the medial portions of the distal bones of tarsus (spavin). Term used for bony growth is exostoses, which is usually caused by injury to these bones during life. When two bones are found completely united together by a union of solid bone then this obliterated called as ankylosis: This condition occurs due to inflammatory process of this joint.

(21) Pneumonia :-

It is inflammation of lungs. Lungs are congested & red in colour. Lungs are consolidated & hepatized having same degree of firmness as liver. Pieces of lungs sink in water. On incision, foamy exudate is oozed. Lungs also show areas of atelectasis and areas of emphysema.

(22) Pleuritis or pleurisy :-

It is inflammation of pleura. When pleuritis accompanie· pneumonia then condition is called as pleuropneumonia.

Lesions :- Pleura is swollen. There is acute hyperemia. There is excess accumulation of serous exudate in the pleural cavity compressing the lungs. When fibrin is found in the exudate then adhesions of two surfaces of pleura takes place (adhesive pleuritis).

(23) Atelectasis of lungs :-

It refers to failure of the alveoli to open or to remain open, in which alveoli are collapsed & do not contain air.

The affected part of lung is depressed and shrunken as compared to the surrounding tissue. This part of lung is dull, red in colour and appear as liver in consistency. Piece of affected part sinks in water. It is dry & does not contain fluid. By atelectasis of lungs, it can be determined whether animal was dead at birth.

If whole lungs were atelectasis, it means animal, at birth was dead so air was not brought into the lungs. If animal was alive at birth and inhales, then alveoli become filled with air and this distension of lungs persist even if death takes place. Hence, the presence of air in the lungs or dilation of lungs is an indication in

newly born dead animal that this animal was alive at birth and breathed. Still birth can be diagnosed by examining the lungs of the fully mature dead faetus.

(24) Pulmonary emphysema :-

It is inflation and dilation of alveoli of lungs with air. There are two types namely diffuse alveolar emphysema and focal alveolar emphysema. In diffuse alveolar emphysema, the entire lung is greatly enlarged in size, fills the thoracic cavity, the imprints of ribs are found on it. The lungs are pale & distended, alveoli are easily seen by naked eye. The lungs give crepitate sound when pressed and difficult to incise. In focal pulmonary emphysema, there are sharply defined foci involving one or more lobules which are distended with air. These areas are prominent because of their pale colour large volume and V-shaped appearance.

(25) Traumatic pericarditis :-

Heart is covered with white or blood stained fibrin several millimeters thick. The granulation tissue with its fistulous tract reaching from diaphragm and recticulum is very extensive. The metallic wire, nail or similar object is commonly seen within the lesion reaching into or through the wall of the sac and penetrating into heart. There is adhesion between reticulum, diaphragm into heart by this purulent and thick granulation tissue.

(26) Splenitis :-

It refers to inflammation of spleen. The spleen is highly enlarged and soft. When incised with knife, cut surface bulges and is dark red or black in colour. The parenchyma flows because it becomes very soft. The trabeculae and Malpighian corpuscle can not be detected.

(27) Gastritis :-

It is inflammation of stomach. The mucous membrane of stomach is congested and red in colour. The mucosa is thickened. Blood tinged is found inside the stomach. Occasionally, mature or immature parasites are found in the stomach.

(28) Intususception :-

It is a telescoping of section of the intestine in the nearest portion of gut. Affected part show the changes of congestion, oedema, haemorrhage & necrosis. This part of intestine is swollen,

firm or bluish red and slightly curved. The mesentery surrounds the neck of Intususception. Fibrinous adhesions form between two parts of intestine.

(29) Enteritis :-

It is inflammation of intestine. The mucosa of intestine is congested and haemorrhagic. The mucous membrane is thickened. The blood tinged ingesta is found inside the lumen of intestine. In parasitic enteritis, adult parasites are found inside the lumen either free in the lumen or attached with the mucosa of intestine.

(30) Hepatitis :-

It is inflammation of liver. In acute hepatitis, liver shows the changes of degeneration and necrosis. Liver is usually lighter in colour but frequently, liver is congested. The lobules can easily be seen. The liver becomes swollen. On incision, cut parts bulges. In chronic hepatitis (cirrhosis), liver becomes very firm and extremely hard. On incision, a grating sound is produced. The surface of liver is rough and granular. The normal shape of liver is disturbed & twisted or contracted. Colour of the liver becomes yellow or pale. In suppurative hepatitis, several abscesses of various sizes are found on the liver. On incision, these abscesses may contain light yellow, greenish yellow or dirty pus. Old abscesses vary much in size and are encapsulated and calcified. In fascioliasis, adult liver flukes are found in the bile ducts with chronic cholangitis. Bile ducts are greatly enlarged and appear as gray or white tortous cordlike structures.

(31) Ascitis or hydroperitoneum :-

It is oedema in which excessive transudate (fluid) is accumulated in the peritoneal cavity.

During P.M. examination, peritoneal cavity shows the presence of excess watery fluid which does not coagulate.

(32) Nephritis :-

It is inflammation of kidney.

(a) **Focal embolic glomerulonephritis** :- Affected kidneys show scattered patechiae and multiple small (tiny) abscesses. These abscesses are yellowish colour.

(b) **Pyelonephritis** :- This condition is recognised by the presence of congestion, haemorrhage and abscesses in the cortex

of kidney. Pelvis of the kidney is severely congested and show the presence of pus. In most of the cases mucosa of ureter, urethra and bladder show the changes of suppurative inflammation.

(c) **White spotted kidney :-** Kidneys of calves show the presence of white spots on the cortical surfaces of kidneys. These spots are actually occur in acute and subacute interstitial nephritis. On incision, white or gray colour stripes are found extended from cortex to medulla.

(d) **Chronic interstitial nephritis** :- The affected kidney becomes smaller in size, firm, contracted, pale and white in colour. The cortical surface of kidney shows the presence of nodules. Some nodules are very small due to which kidney appears as granular. Kidneys are cut with resistance due to extensive fibrosis. The medulla is reduced in width. These affected kidney is called as "Small, white, granular, contracted kidney".

(e) **Hydronephrosis** :- Kidney becomes hollow sac. Pelvis is dilated. Medulla disappears. Cortex reduced to narrow rim. Affected kidney appear as lobulated sac filled with serous fluid. When hollow sac of kidney shows the presence of pus at the time of post-mortem examination, the condition is then diagnosed as pyonephrosis. If one kidney is affected with hydro-nephrosis or pyonephrosis, the other kidney is highly enlarged in size showing comensatory hypertrophy.

(f) **Amyloid in kidney :-** Affected kidney enlarged in size and become white in colour. The cortical surface of this enlarged kidney is grayish white to grayish brown in colour. Pinhead sized yellow. opaque foci are found on the cortex which give surface a slightly granular appearance. Narrow yellow streaks are found in medulla. Some time, amyloidosis in kidney is not easily diagnosed, but the application of an iodine solution, such as Lugol's iodine on cut part of fresh kidney which has been previously exposed to a weak acid gives brown spots indicating presence of amyloid in the glomeruli.

(g) **Ureteritis and cystitis** :- It refers to inflammation of ureter and bladder.

Mucosae of ureter and bladder are congested and haemorrhagic, mucous membrane is thickened.

(33) Calculi or concretions :-

Concretions are compact or solid mass form in hallow

organs and in ducts. When they are formed from endogenous materials then they are called as calculi or lith chiefly made up of salts of calcium & phosphorous. When concretions are formed by plant fiber, they are called phytoconcretion & those made up of hair, called as piliconcretion. These phytoconcretion and piliconcretions are found in the stomach at the time of autopsy.

Liths means stone which is also called as calculi. During P.M. examination, autopsists may find calculi located in different parts of body. Different terms have been given according to their location which are as follows :-

(i) **Urolith** :- Stone found in any part of urinary tract is called as urolith or urinary calculi.

(ii) **Nephroliths** :- Stones of kidney.

(iii) **Cystoliths** :- Stones of urinary bladder.

(iv) **Choleliths** :- Stones of gall bladder & bile ducts of liver.

(v) **sialoliths** :- Stones of excretory ducts of parotid, sublingual and submaxillary salivary glands.

(vi) **Pancreatoliths** :- It refers to stone of pancreas.

(vii) **Enteroliths** :- It refers to concretion or calculi of intestine, frequently occurs in horse.

Above liths may be of any size from a mere collection of sand-like particles to a single stone of ball size. They may be hard or soft, white or yellow, smooth or rough, rounded or flattened.

Calculi cause mechanical irritating effect on the tissue where they are localised. In the kidneys, they formed cysts containing calculi and fluid. The main harm done by calculi is the obstruction when lodge in the duct such as ureter, urethra, intestine or bile duct causing rupture of urinary or gall bladder due to excess accumulation of urine or bile.

(34) Pyometra :-

It refers to suppurative inflammation of uterus. In this condition, cervix is found closed. The uterus is highly distended with accumulated pus. Mucosa of uterus is highly congested and haemorrhagic.

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(35) Veneral granuloma (V.G) of bitch :-

It is a malignant tumour, generally transmitted by coitus or by contact.

Tumourous growth is found on or in close proximity to the external genitalia. Occasionally, lesions are found on the face, shoulder and other parts of the body. Male and female are equally affected. This tumour appears as cauliflower which is sessile, ulcerated and a few centimeter in size. It is found distending & protruding from vagina in bitch & tumourous growth located at the base of penis.

(36) Retaintion of placenta :-

After parturition, placenta and other faetal membranes are expelled. If placenta is retained for more than 10 to 12 hours of parturition, the condition is considered as pathological because retained placenta & faetal membranes start decomposition in uterus resulting into septic metritis and toxaemia.

The main cause of this condition is due to failure of cotyledons and carbuncles or the villi and crypts to separate, early closure of cervix or lack of uterine contraction or microbial infections.

(37) Abortion and still birth :-

Abortion is the expulsion of a dead fetus previous to the end of the full term of normal gestation. It occurs due to specific infectious disease of fetus, fetal membranes or uterus, stillbirth is the expulsion of a dead fetus that has reached the stage of development that would ordinarily enable it to survive outside the uterus.

Hence, autopsist has to differentiate between abortion and stillbirth before giving diagnosis of dead new born. As said earlier, if dead new born is fully developed, after completion of full gestation period, then it is stillbirth. If fetus is immature & has not completed full term of gestation then it is abortion. Following are important diseases in which abortion is one of the primary symptom :

(i) **Bang's disease or Brucellosis** :- It is caused by Brucella abortus. Congestion, swelling & inflammation of placenta are main lesions. Abortion occurs at 6th to 7th month of gestation in cows.

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(ii) **Vibriosis** :- It is caused by vibrio fetus. The lesion of this disease is inflammation of placenta in which placenta becomes swollen, haemorrhagic and congested. Abortion, generally occurs in fifth and seventh month of pregnancy in cows.

(iii) **Trichomoniasis** :- it is caused by a protozoa, known as Trichomonas fetus. The main lesions are found in endometrium of uterus and placenta which are inflamed. Abortion occurs very early usually 8 to 16 weeks of pregnancy in cows.

(iv) **Epizootic bovine abortion** :- It is caused by chlamydia. Abortion occurs during seventh to ninth month of pregnancy.

(v) **Listeriosis** :- It is caused by L. monocytogenes. It generally produces abortion in late pregnancy in cows.

(38) Mastitis :-

It refers to inflammation of mammary glands (udder). The affected quarter is swollen & tense. Affected teat is swollen. In tuberculous mastitis, nodules containing caseous material is found. In gangrenous mastitis, udder becomes cold and bluish red colour and gangrenous.

(39) Milk fever :-

There is no specific post-mortem lesion. This disease is diagnosed on the basis of history of symptoms shown by animal during live. The main symptom is that affected cows lies on its sternum with the head characteristically turned towards the flank and muscular tetany & tremer.

(40) Downer cow syndrome :-

It is a after effect of post-parturient paresis (milk fever). During hypocalcemic stage of milk fever, affected cow lies down on its sternum with the head turned towards flank. Some remained down on its sternum, inspite of treatment. This is called as "downer cow" syndrome.

P.M.lesions :- Abrasions and ulcers with haemorrhages, degeneration and necrotic lesions are present in the medial thigh muscles around the hip joint. Oedema and degeneration are found in nerves of limbs. Heart is dilated and empty. Liver is found swollen and enlarged, easy to cut indicating fatty degeneration. Adrenal glands and kidneys are commonly found swollen and enlarged in size due to degenerative changes.

(41) Lightening stroke or electrocution :-

In lightening stroke, the electrical energy is converted into thermal injury resulting into burns. In lightening stroke, there is unconsciousness, burns and death. Rigor-mortis develop very rapidly in dead animals. Meninges and lungs are congested. Lungs are oedematous. Haemorrhages are seen in different organs. Tree shaped branching, reddish or bluish streaks are found on skin of body. Hair and skin are scorched. Presence of deep burn upto bone at the point of contact. Blood becomes black and liquified.

(42) Snake-bite :-

Sudden death occurs due to venom. Two classes of venom are found, one is haemolytic and other neurotropic. Cattle, which died suddenly, with a bite of viper, shows teeth marking on muzzle, face or feet surrounded by oedema. Many times, such marking are not easily found but unclotted blood without bloating of carcass and with extensive haemorrhage and effusion in body cavities give a clue to this condition. Blood does not clot. In dead cow, bitten by snake of neurotropic venom, shows congestion and oedema of lungs which are signs of respiratory failure. Right chambers of heart is dilated.

(43) Drowning :-

In drowning in tank, river or well of water, sudden death takes place. Dead animals show oozing of watery or red coloured foamy fluid from mouth and nose. Muscles of the whole body becomes stiff and leathery. Lungs show the presence of watery fluid in bronchi of lungs and trachea. Death occurs due to respiratory failure.

(44) Heat-stroke or sun-stroke :-

This causes sudden death in animals particularly in dogs and swine. Animals die due to heat stroke during hot weather either indoor in hot building or crowded in truck or rail journey or out-door exposed to high and humidity, working in the field. Many death has been reported in dogs of police dog in which dogs were running in the field in police investigations in the month of August and September. Weather was hot and humid. The main symptoms were persistent. High fever, respiratory distress and sudden death. The main post-mortem lesions were redness of skin, poorly coagulation of blood, dilation of right side of heart, congestion, haemorrhage

and oedema of liver, kidneys, lungs and brain. Hence, autopsist should suspect for heat or sun-stroke in sudden death of animals particularly in dogs and pigs which are exposed to high temperature and humidity & it is confirmed by post-mortem lesions.

(45) Cystic ovary :-

This condition occurs frequently in cows of 4 to 6 years of age which are higher milk yielder. Single or multiple cysts are found in one or both ovaries. These cysts vary in size from barely visible to big size measuring as much as ten centimeters in diameter. The walls of the cysts are thin and are found swollen or distended with accumulation of clear watery fluid. These cysts are called as follicular cysts of ovary.

(46) Prostatitis :-

It refers to inflammation of prostate glands, frequently found in dogs, bulls and boars. The prostate is found enlarged, tense and firm. Its surface may be smooth or rough. The cut surface shows distinct lobulation and milky fluid oozes from the cut surface. Cysts are found on the surface. This enlarged prostate glands causes compression of the urethra which leads to partial or complete obstruction or compression of the urethra leading to difficulty in flow of urine through urethra from urinary bladder. Urinary bladder may rupture due to excessive accumulation of urine and cause damage of kidneys either hydronephrosis or atrophy.

When prepuce is inflamed then term posthitis is used and when inflammation occurs in glans penis then it is termed as balanitis. Similarly inflammation of testicle is termed as orchitis, inflammation of uterus is called as metritis, ovary (ovaritis), vulva (vulvitis), of vagina as vaginitis, of clitoris as balanitis and inflammation of urethra is termed as urethritis. Autopsists should use these terms during writing post-mortem reports.

(47) Heamorrhagic septicaemia :-

It is an acute febrile disease of cattle and buffaloes, characterised by sudden onset, high temperature, swelling of sub-cutaneous tissue particularly of throat fibrinous pneumonia and acute gatroenteritis.

During post-mortem examination, main changes are the presence of petechial haemorrhage & degeneration of different organs. Heart, lungs, kidney, liver show petechial haemorrhages

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which appeared as pin-point red dots. Lungs are congested, consolidated and contained red coloured foamy exudate. There iss general oedema of different parts of the body. In the neck region, there is a hard, hot inflammatory oedematous swelling. Mucosae of rumen and intestine are inflamed. Lumen of intestine shows the presence of blood tinged injesta.

This disease is a bacterial disease caued by pasteurella multocida.

(48) Black-quarter or Black-leg or symptomatic anthrax :-

It is an acute highly fetal disease of cattle and occasionally of ssheep and goat caued by bacteria known as Clotridium chauvoei. Many animals found dead in this diseae without showing symptoms (per-acute type).

The main post-mortem lesions are gangrenous change of muscles particularly of high muscles. Muscles become dark-brown or dark-red discoulorisation, often they are streaked black. They are either dry or moist. These both areas are filled with gas. On incision, a crepitating sound appears. Moist areas yield red colour exudate but dry area containing gas appears as spongy. Exudate gives rancid or sweetish repulsive odour. Tongue becomes firm, hard and appears as wood. Occasionally, heart muscles also show the changes of necrosis & gas gangrene.

(49) Bovne-bacillary haemoglobinurea:-

It is an acute, septicaemic dsease of cattle, rarely of horssess and wne, caused by bacteria, known as clostridium haemolytcum. This disease is characterised by sudden onset, high blood temperature, haemoglobinurea and occasionally, intestinal haemorrhage.

The main post-mortem lesions are the presence of large areas of infarcts in the liver.

(50) Braxy :-

It is peracute gas gangrene of abomasum of sheep caused by absorption of toxine produced by clostridium septicum. the P.M.lesions are oedema, necrosis and haemorrhages of mucosa of abomasum. Intestine also shows the changes of haemorrhages oedema & necrosis in the mucosa.

(51) Tetanus or wooden horse or lockjaw :-

It is an acute infectious disease of man and animals

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characterised by persistent, intense and painful contraction of muscles of the body. It is caussed by toxin of Clostridium tetani. Muscle of mouth becomes stiff and contracted due to which mouth can not be opened & name is given as lock jaw. This disease frequently occurs in horses in which muscles of whole body become stiff & contracted & affected horse appears as wooden horse.

This disease is diagnosed on the basis of history of symptoms and occurrance of injury or wounds because there is no post-mortem lesion, although death occurs due to asphyxiation (respiratory and cardiac failure). Blood becomes black colour and coagulates poorly.

(52) Botulism :-

It is caused by Clostridium botulinum. It is food poisoning mostly found in human beings but also found in poultry and animals. The bacteria produced powerful exotoxin. The main symptoms are paralysis of legs & tongue. Death occurs due to respiratory failure.

This disease is diagnosed on the basis of history of symptoms because there is no lesions found in autopsy.

(53) Brucellosis :-

It is a group of disease of domesticated animals and man caused by (i) Brucella abortus (ii) Br. melitensis (iii) Br. suis (iv) Br. ovis (v) Br. canis. All species of thise bacteria have special affinity forgenital organs of male & female animals. The leions are those of abortion, epidedymitis and orchitis. Lesions may also found in mammary glands, lymph nodes, joints and bone. Granulomatous nodules are found on testicles and endometrium of uterus.

(54) Glanders :-

It is a chronic disease of equine animals characterised by nodules and ulcers in nasal mucosa, lungs and skin caused by bacteria known as pseudomonas mallei. Skin lesions are called as Farcy. The lesions are found in the nasal mucosa, characterised by presence of ulcers or star shaped scar of healed ulcer. Granulomatous nodules are found in lungs. In some cases, lungs show changes of purulent broncho-pneumonia.

Skin lesions (farcy) :- Lesions are mostly confined in legs. They appear as persistent ulcers. These ulcers are connected by

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totuos oedematous lymphatic vessels. Abscesses are found on lymph nodes connected by tortuous lymphatics. On incision, these abscesses show the presence of yellow fluid.

(55) Leptospirosis :-

It is an infectious disease of animals and man characterised by dehydration, vomition, albuminuria, acute nephritis and hepatitis. It is caused by Leptospira icterohaemorrhagiae, L. canicola, L. pomana and L. bovis.

The main post-mortem lesions are haemorrhages on different organs, most commonly in the lungs, stomach, small & large intestine, liver, kidneys, heart, gall bladder and urinary bladder. Petechial haemorrhages are also found in the sub-cutaneous tissues, skeleton muscles, brain and adrenal. White foci of 1 to 5 m.m. diameter are found on the cortical surface of kidneys. Lymph nodes & spleen are generally enlarged in size, oedematous & haemorrhagic.

(56) Actinomycosis or lumpy jaw :-

It is a chronic suppurative inflammation of mandible and maxilla of cattle caused by a bacteria known as Actinomyces bovis.

The main post-mortem lesions are hard irregular swelling in the mandible or maxilla which contained pus. The affected part of bone becomes elongated, irregular & becomes honeycomb like. On incision, white surface appears due to presence of connective tissue. Pus of this lesion contains small yellowish granules called as sulphur granules.

(57) Actinobacillosis or wooden tongue :-

It is a chronic suppurative disease affecting soft tissues of cattle, swine and sheep caused by Actinobacillus lignieresi.

Suppurative or abscess lesions are found in soft tissue particularly in tongue, lymph nodes of head, neck and thorax and ocasionally in lungs. These abscesses contained thick or adhesive pus. Tongue becomes stiff due to fibrosis, immobile & protrude from mouth.

(58) Tuberculosis :-

It is chronic infectious disease of animals and man, characterised by formation of small nodules in different organs. Nodules are called as tubercle.

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The main post-mortem lesions are presence of hard and firm nodules of various sizes in the affected organ. The nodules are white, grey or yellow in colour. Cut surface is white or yellowish centre which is dry appearance. Numerous minute nodules are found in the organs in miliary tuberculosis. When nodules of 0.5 to 1 c.m. in diameter are found on the pleural or peritoneal surface, shines like pearl, this condition is called as pearl disease.

(59) Foot and mouth disease or Aphthous fever :-

It is an acute, higly contagious disease of cattle, sheep, goat and swine and characterised by formation of vesicles in mouth and feet, sometimes on the skin of udder and teats. It is caused by 7 strains of virus. They are A,O,C, SAT-I, SAT-II, SAT-III & Asia-1. They produce similar types of symptoms & lesions.

The main post-mortem lesions are presence of vesicles or aphthae on the oral mucosa of lips, dorsum of tongue and coronary band near the interdigital space of foot. The vesicles are also found teat, udder, vulva, conjunctiva, reticulum and omasum. These in lesions are foun in adult animals. These epithelium easily detached leaving red surface.

In young heifer and lamb, lesions of acute gastroenteritis and myocarditis are found. The lesions in the myocardium are most common in the fatal disease of young calves & lamb. The lesions are found un the wall of left ventricles which appear as small grayish irregular line which gives myocardium stripped appearance similar to tiger skin. Thats why this affected heart is known as tiger heart.

Lesions of vesicles are also found in another viral disease known as vesicular stomatitis, occurs in swine, cattle horses and man, producing diseases similar to foot and mouth disease but there is rarely myocarditis & never fatal. Similarly, vesicle formation in the epithelium of snout, lips, nostril, tongue, feet and mammary glands occur in swine vesicular exanthema.

(60) canine distemper or Hard-pad disease :-

It is an acute infectious disease of young dogs characterised by fever, pneumonia and occasionally with nervous symptoms. If, there is a death in young dogs without any gross lesions then this disease should be suspected.

The main symptoms are diphasic fever, Coryza, purulent

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conjunctivitis, bronchitis, diarrhoea, dehydration emaciation. if nervous symptoms then pups show irregular movement, excessive salivation, occasionally, blindness, paralysis and hyperkeratosis of digital foot pad. It is viral disease.

P.M.lesions :- Emaciation, purulent or catarrhal exudate in the nasal cavities. Congestion & thickening of mucosa of trachea, congestion & consolidation of lungs with foamy exudate, haemorrhage, congestion & thickening of mucosa of stomach & intestine, enlargement of spleen and thickening of digital foot pad are important post-mortem lesions.

(61) Infectious canine hepatitis :-

It is an infectious disease of dogs characterised by oedema of subcutaneous tissue of head & neck, vomition, bloody diarrhoea and hepatitis. It is caused by virus.

The main gross lesions are the presence of petechial haemorrhages in different organs. Spleen, liver and lymph nodes are greatly enlarged. Liver becomes brown or red in colour. Oedema is found in brain, heart, lungs and gall bladder.

(62) Rabies :-

It is an acute encephalomyelities of dogs, wolf and foxes, characterised by aggresive disorders, paralysis, excessive salivation and death. It is a viral disease. There are two types of symptoms namely (i) Furious form in which dogs become mad and (ii) Dumb form in which there is paralysis of lower jaw & other parts of body with excessive salivation. Death occurs within 21 days.

There is no specific post-mortem lesion except the congestion of brain. Foreign particles are found in the gastrointestinal tract. This disease is diagnosed on the basis of history of symptom and it is confirmed by detecting negri bodies (inclusions) in impression smears of brain stained by sellers stain or basic fuchsin and methylene blue stains, but mere absence of negri-bodies, this disease is not ruled out because negri-bodies are not found in about 30% of cases of rabies. Hence, all bitten cases of dogs, veterinarians should advice the owner to take preventive measures immediately, including taking anti-rabic vaccine because there is 100% death in this disease as there is no treatment. Rabies is most important zoonotic disease.

(63) Rinderpest :-

It is acute virai disease of cattle, occasionally, of sheep and

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is characterised by rapid course high fever, destruction of lymphoid organs and necrosis of epithelium of digestive tract.

P.M.Lesions :- There is focal areas of shallow erosions on inside the lower lip, adjecent of gum, ventral portion of free part of tongue, in the mucosa of oesophagus and abomasum. The most charecteristic lesions are found in the mucosa of intestine particularly in the large intestine. Petechial haemorrhages are found on the crests of fold of mucosa appearing as bright red patches in ilio-caecal valve, at the caeco-colic junction and in the rectum. These red streaks of congestion found on mucosa of large intestine are called as zebra-marking because affected mucosa of large intestine appears as skin of zebra. Liver, lungs and heart also show changes of haemorrhages and necrosis.

(64) African Horse sickness :-

It is an infectious disease of horses, characterised by high fever, sudden on-set with pulmonary and cardiac affection, caused by virus. There are four forms of this disease namely, mild form, pulmonary form, cardiac form and mixed form. Post-mortem lesions depend upon form of this disease.

The most important gross lesions are oedema of face, head, lips, eyes, hydrothorax and hydropericardium. Lungs also showed the changes of oedema & pneumonia. Froathy exudate is found in trachea and bronchi. Epicardium of heart shows petechial haemorrhages. Liver and kidneys and lymph nodes are congested.

(65) Equine encephalomyelitis :-

It is an acute disease of horses and mules characterised by an inflammation of brain (encephalitis) and spinal cord (myelitis) terminating fatal in 50 percent cases. It is caused by virus. This virus has 3 strains namely, western, eastern and venezuelan strains. The main symptoms are high fever, stuper and paralysis of different group of muscles of the body, unable to stand, facial paralysis, collapse and death.

There is no gross lesions seen in dead horses and diagnosis is made on the basis of history of symptoms. Microscopic lesions are found in the brain & spinal cord so pieces of brain & spinal cord should be sent to the laboratory in 10% formalin for histopathological examination.

(66) Scrapie in sheep :-

It is a viral disease of sheep, characterised by acute

prurities of skin causing regular scratching or scraping of skin. Incubation period of this disease is very long between 1.5 years to 5 years and course of disease is 2 to 6 months. The main symptoms are dull, depressed, restless, keep head down & movement of head appears as if catching fly, stiff legs, abnormal gate, grinding teeth and continuous scratching of skin with hard object.

Dead sheep do not show any characteristic post-mortem lesion. This disease is diagnosed on the basis of history of symptoms. Microscopic lesions are found in the brain hence brain is collected for histopathological examination.

(67) Pseudo-rabies or Aujeszky's disease or Mad-itch :-

It is a viral disease of cattle, causing death. It is caused by virus. The main symptoms are irritation of skin. The skin is regularly rubbing in standing object result into formation of ulcer. Paralysis develops & death takes place. Except this lesion, there is no characteristic gross lesions of this disease & diagnosis is made on the basis of history of symptoms.

(68) Hog-Cholera or Swine fever :-

It is an acute, highly contaginous disease of pigs, characterised by diarrhoea, pneumonia, skin haemorrhages and always fatal. This disease is caused by virus.

Post-mortem lesions :- The main gross lesions are those of haemorrhages and infarction of different visceral organs. Kidneys, lymph nodes, urinary bladder, spleen, lungs show the presence of petechial haemorrhages. Blood coagulates poorly. The pathognomic lesions of this disease are found in kidney called as turkey egg kidney and intestine showing button shaped ulcers. In the kidneys, sharply demarcated petechial haemorrhages from 1 to 5 m.m. in diameter are found present on the cortical surface just beneath the capsule. These petechial haemorrhages give the kidneys a characteristic appearance of turkey egg. Mucosa of colon shows the presence of ulcers. These ulcers are sharply demarcated which appear as button shape ulcer. Skin of different parts of the body shows red erythematous patches.

(69) Swine erysipelas or Diamond skin disease :-

It is septicaemic disease of swine of all ages characterised by erythema of skin, vegetative endocarditis and arthritis. It is caused by gram positive bacteria known as erysipelothrix

rhusiopathiae.

The main gross lesions are the presence of rhomboid shaped or diamond shaped erythema on skin of body particularly on back, abdomen, tail and ears. Carpal and tarsal joints are found swollen with excessive fluid. Heart shows the lesions of vegetative endo-carditis in which large, coarse masses are found present on valves, projecting into lumen of left ventricle.

70. Gum-Boro Disease :-

It is a viral disease of chickens.

Gross lesions :- (1) Bursa of fabricius is primary target of this disease. On 3rd day of post-infection, the bursa begins to increase in size and weight due to oedema and hyperaemia. It becomes approximately double to its normal weight by 4th day and then begins to recede in size. By 5th day, it returns to its normal weight but bursa continues to reduce in size and from 8th day onward, it is approximately one third (1/3) of its original size and weight. Bursa has gelatinous, yellowish transudate covering. The normal white colour of bursa changes into cream or gray in colour. Infected bursa shows necrotic foci with petechial or ecchymotic haemorrhages on mucosal surface.

(2) Heamorrhages are found in thigh and pectoral muscles.

(3) There is increase mucous in the intestine.

(4) The kidneys are enlarged, the tubules are clearly evident due to distension with accumulated urates with distended ureters. Renal changes are prominent.

(5) The spleen is slightly enlarged in size, sticky, small gray foci found uniformly on the surface.

(6) Occasionally, haemorrhages are found in the mucosa at the junction of proventriculous and gizzard.

71. Rani-Khet disease :-

It is a viral disease of chickens.

Gross-lesions :- Gross lesions depend upon the strain of virus as well as immune status of the body of chickens. Young chicks are more severely affected. The common lesions are haemorrhages associated with necrotic foci in the intestine. Catarrhal or serous exudate is found in the larynx and trachea and pneumonic advanced cases, spleen is found atrophied.

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The most important and pathognomic gross lesion is the presence of petechial or ecchymotic haemorrhages on the top of mucosa of proventriculous, Gizzard & caecal tonsil.

72. Avian encephalomyelities :-

It is a viral disease of birds.

Gross-lesions :- There is whitish areas found in the muscularis of proventriculous due to leucocytic accumulation. There is lumbosacral enlargement of the spinal cord. Microscopic lesions of brain and spinal cord are very prominent.

73. Aspergillosis in poultry :-

It is a fungal disease.

Gross lesions :- Lungs show the presence of nodules of various sizes. Lungs are congested and pneumonic. Cream coloured exudate is found in air sac, larynx and lungs. The serous membranes of air sac become thickened. Bronchi and trachea are blocked by mucoid materials. Changes of keratitis are found in eyes of young chickens.

74. A.L.C :-

It is a viral disease of poultry.

Causing malignant tumors. Gross lesions are the presence of tumorous growth in liver, kidneys, spleen and other organs. This disease occurs in birds above 4 months of age. Affected organs are highly enlarged in size.

75. Mareks disease :-

It is also sarcoma occurring in chickens above 4 weeks of age. The main lesions are thickening of ciatic nerve, brachial nerves. There is loss of striation of affected nerves with gray or yellow colourisation. Lymphoid tumours are found in the gonades including ovary. Eyes become gray. It is caused by virus.

76. Bacillary white diarrhoea :-

It is caused by salmonella pullorum in chickens.

Gross-lesions or post-mortem lesions :- (1) Irregular shaped eggs are laid by infected hens. Shape and colour of eggs vary. It may be round, golden yellow, angular, flattened irregular and reddish green in colour. They are pedunculated yolk sac.

(2) In hens, the vitelline sacs changes from yellow colour to

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gray, red brown or greenish colour. The size of yolk varies.

(3) The pedicles may separate and leave the yolks free in abdominal cavity or they are found attached to the visceral or parietal peritoneum by fibrous adhesions.

(4) In pullets, salpingitis is seen.

(5) In roosters, lesions of suppurative pericarditis are found. Organisms are found in testicles without any lesions.

(6) In the baby chicks, lesions of diffuse suppurative enteritis, focal suppurative ventriculitis, myocarditis, hepatitis and pneumonitis are found. Liver is enlarged with white spots on the surface. Nodules are found in the walls of heart and Gizzard. Lungs are found congested and show necrotic nodules. Four day old chickens contain unabsorbed yolk sac.

(7) Other member such as salmonella typhimurium, produces similar lesions in young birds of various species. S. typhimurium is also transmitted through eggs similar to S. pullrum.

77. Fowl Cholera :-

It is caused by Pasteurella multocida.

Gross-lesions :- In acute cases, organisms cause cutaneous hyperaemia in abdominal and pectoral region, passive hyperaemia of comb and wattles, general hyperaemia of visceral organs, petechial haemorrhages on the heart, necrosis of hepatic cells, congestion of lungs and finally haemorrhagic or fibrinous pneumonia. Liver is enlarged and shows necrotic foci.

In chronic cases, liver, lungs and mucosa of intestine show the presence of numerous foci of caseous necrosis.

Suppurative inflammation is frequently found in the wattles. Some infected birds also show the changes of suppurative arthritis, pericarditis and fibrinous pleuritis.

78. Fowl typhoid :-

It is caused by salmonella gallinarum.

Gross lesions :- Mucosa and serous membrane are pale and anaemic. Liver is enlarged in size. Surface of liver shows numerous foci of coagulative and liquefactive necrosis. These foci are green in colour. Spleen is swollen and shows numerous abscesses of various size. Kidneys are swollen and show abscesses. Bacteria can be demonstrated from these abscesses.

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79. Vitamin-A deficiency in chickens :-

Gross lesions (Post-mortem lesions) :- (1) Small white postules of one to two mm diameter are found in the mouth, pharynx and oesophagus. (2) Mucosa of nasal cavity and trachea are congested and thickened, (3) Ulcers may be found in nasal passages, oesophagus and pharynx, (4) Exudate is found in the nasal cavities and sinuses (5) severe gout is found in which there is deposition of masses of chalk like materials in and around joint, heart and kidneys (6) Cheesy materials are found in the eyes.

80. Coccidiosis in poultry :-

It is protozoan disease.

Autopsy lesions :- The most important post-mortem lesion of poultry are the presence of haemorrhagic or non-haemorrhagic changes in the different parts of intestine including caecum. The location of major lesions gives a good indication of different species of coccidia.

In case of E.tenella, the blind guts (the Caeca) are found enlarged, swollen and filled with blood and plugged with yellowish cheesy materials with dark bloody areas. The major damage is brought about by a sexual stages of coccidia.

In E.necatrix, swollen mucous membrane with haemorrhages and blood tinged exudate are found in central part of intestine.

In E. brunetti, haemorrhagic lesions are found in the mucosa of lower intestine and rectum. So rectal coccidiosis is caused by E. brunetti.

In E. maxima, pin point haemorrhages and congestion are found in mucosa of middle part of small intestine. Contents of injesta of that area are bloody colour.

In E. acrevulina and E. mivati, primary lesions are seen in the duodenal loop. petechiae and congestion are main changes.

In E. hagani, haemorrhagic lesions are found in anterior half of small intestine.

In E. mitis, lesions are mostly found in anterior part of small intestine.

In E. praecox and wenyonella gallinae, lesions of enteritis are found in upper part of small intestine.

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81. Black head disease of turkey :-

It is a protozoan disease.

Post-mortem lesions :- Dark or cyanotic discolouration of skin of head and wattle, characteristics necrotic lesions in the liver, haemorrhagic swollen caeca are found. Haemorrhages are found in several organs including lungs, spleen, kidneys and heart.

82. Gape-worm disease :-

it is caused by Syngamus trachea in poultry.

Post-mortem changes :- Adult worms are found in the trachea. Dead birds are anaemic and emaciated. Mucosa of trachea shows petechial haemorrhages with inflammation. Lungs show changes of pneumonia.

83. Surra :-

It is caused by Trypanosoma evansi in cattle and buffaloes (Protozoa).

P.M.Lesions :- Emaciation and oedema of different parts of body. Petechial haemorrhages are found in liver, kidneys and other organs. Liver, kidneys and lymph nodes are enlarged in size.

In horses, surra is always fatal if treatment is not done. Death occurs in few days to a few months. Oedema and emaciation are common lesions. Urticarial plagues on the neck and flanks, oedema of the legs and lower parts of body are found in horses. The plagues are necrosed in the centre and haemorrhages are found at the junction of mucous membrane and skin of the nostrils, eyes and anus. Anaemia, emaciation, enlargement of spleen and lymph nodes, petechial haemorrhages on kidneys and liver are other lesions of this disease in equines. In dogs, corneal opacity are common lesions. In horses, death generally occurs due to emaciation, anaemia and enlargement of spleen and lymph nodes. Incubation period in horse is 4 to 9 days. In camels, this disease is called as "**Tibersa**" because the disease last upto three years. Incubation period in camel is 1 to 3 weeks.

84. Dourine of Horses :-

It is caused by Trypanosoma equiperdum (Protozoa).

Post-mortem lesions :- There is emaciation, anaemia and oedema of different parts of the body including vulva. Changes of congestion are found in vagina, vulva or in prepuce. Red coloured

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fluid oozes from vagina. Muscles of the body are found atrophied.

85. Kala-azar of man & dog :-

It is caused by Leishmania donovani (Protozoa).

Post-mortem lesion :- The most important lesions are emaciation, anaemic mucous membrane, a markedly enlarged spleen which is congested with Malpighion corpuscles and enlarged liver with fatty infiltration. Lymph glands in general are enlarged and cells of lymph glands are parasitised. Endothelial cells of blood vessels and majority of macrophages show the presence of this parasite. Abdomen is distended by oedema. In dogs, ulcers are found on the lips and eyelids. In chronic cases, eczema is found on the skin of dogs.

86. Bovine trichomoniasis :-

It is caused by T.foetus (Protozoa).

Post-mortem lesions :- In the early stage, changes of vaginitis and vulvitis are found in which vagina and vulva including clitoris are swollen and congested. The mucous membrane of vulve and vagina becomes granular each nodule is very hyperaemic. Mucopurulent or yellow colour exudate is present. In later stage of infection, changes of cervicitis and catarrhal or purulent endometritis are seen. In aborted cow with retained foetal memberane, cervix is found closed and uterus shows the changes of pyometra. Uterus becomes swollen and distended with accumulation of a large volume of thin, greyish white accumulation of a large number of trichomonads. Bulls usually do not show any abnormality except changes of balanitis in few cases.

87. Giardiasis :-

It is caused by Giardia lamblia in man (Protozoa).

Post-mortem lesions :- The most important gross lesions are the presence of ulcers and inflammatory changes in the duodenum. In some cases, lesions of inflammatory changes found in the mucosa of gall bladder and bile duct along with the presence of ulceration in upper part of duodenum and dermatitis in skin.

88. Amoebiasis :-

It is caused by Entamoeba histolytica in man (Protozoa).

Necropsy lesions :- Flask shape ulcers are found in the caecum and adjacent colon. Ulcers are surrounded by necrotic

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tissue. Edge of ulcers is hyperaemic and swollen due to inflammation. In some cases, amoebic abscesses of different sizes are found in liver. Abcess is filled with blood or chocolate colour necrotic materials. Amoeba is found on the wall of abscess Similar abscess may be found in lungs or brain due to metastasis of this parasite from intestine.

89. Malaria in man :-

It is caused by Plasmodium sp.

Post-mortem lesion :- There is enlargement of spleen which is slate grey or black colour depending upon the presence of malarial pigment (hemazoin). Cut surface appears as homogenous black area with scattered white spots. The liver is enlarged in size due to congestion and prolifaration of R.E. cells. The colour becomes chocolate rad or black. Bone marrow is reddish brown or black in colour. Haemorrhages are found in the brain in cerebral malaria due to occlusion of blood vessels by parasitised erythrocytes and thrombi. Anaemia is found in most cases due to haemolysis as a result of alteration of erythrocyte membranes by parasites (protozoa).

90. Babesiasis :-

It is caused by species of Babesia protozoa.

Post-mortem lesion :- carcass is usually emaciated, anaemic and icterus. Blood is thin and watery. Subcutaneous and intramuscular connective tissue is oedematous and yellow in colour. Subcutaneous fat is yellowish colour. All visceral organs are icteric.

The spleen is highly enlarged four to five times than normal size, and its parenchyma is soft and dark red. The liver is enlarged and yellow brown colour. Gall bladder is distended with accumulated green colour bile. Kidneys are swollen. Urinary bladder usually contains red coloured urine. A characteristic lesion, in acute cases of death, is the presence of severe intravascular clotting.

91. Theileriasis :-

It is caused by species of Theileria protozoa in cattle & buffaloes.

Post-mortem lesions :- The most constant lesions found at

necropsy consist of generalised enlargement of lymph nodes. Pulmonary oedema with emphysema and subcutaneous and intramuscular oedema. Haemorrhages and congestion are found on lymph nodes, liver, lungs and kidneys, pin point haemorrhages are seen on free portion of tongue, endocardium of left ventricle of heart, coronary grooves, mucosa of abomasum and gall bladder. Liver and spleen are highly enlarged in size. The pathognomic lesions are the presence of punched out ulcers in the abomasum surrounded by haemorrhagic zone. There may be hydrothorax and hydro pericardium. White foci of various sizes are seen in the renal cortex. The meninges may be congested and focal haemorrhage is present in the brain.

92. Balantidiosis :-

It is caused by Balantidium coli (Protozoa) in man & dogs.

Autopsy lesion :- Presence of ulcer in the mucosa of large intestine is the important lesion. These ulcers are similar to those found in E. histolytica but are smaller in size and the disease seldom shows metastasis. Mostly, areas of superfecial coagulative necrosis are discernible.

93. Coccidiosis in calf :-

It is a protozoan disease.

Autopsy lesions :- Haemorrhagic enteritis is found in which there is congestion, oedema, petechial or diffuse haemorrhages in posterior part of small intestine and in the mucosa of illum, caecum and colon. Lumen of affected parts of the intestine is filled with blood tinged materials. In some cases, mesenteric lymph glands are oedematous but do not contain coccidia.

94. Coccidiosis in rabbit :-

It is a protozoan disease.

Necropsy lesions :- In hepatic coccidiosis, liver is found enlarged. small greyish white nodules are present on the surface of liver. The gall bladder is distended with excess thick bile. Bile ducts are swollen filled with developing coccidia. Hyperplasia of epithelium of bile ducts occurs. In chronic cases, cirrhosis due to diffuse fibrosis is found in liver.

The main gross lesions of intestinal coccidiosis is changes of haemorrhagic enteritis.

95. Coccidiosis in sheep & goat :-

It is a protozoan disease.

Lesions :- Asexual stages cause more damage. Schizonts grow in villi of intestine due to which papillomatous growth takes place in the villi. Mucosa is thickened and oedematous. There is light yellow, pin head size nodules or wart like growth found in the intestine.

96. Anaplasmosis :-

It is a rickettsial disease of animals.

Post-mortem lesions :- Carcass is emaciated. All the tissues and organs are icteric. The lymph nodes are oedematous. Heart is dilated. Lungs are emphysematous. The spleen is greatly enlarged. The liver is enlarged, has rounded edges and yellowish in colour. The gall bladder is distended with dark green, viscid bile resulting from excessive amounts of cholebilirubin. Urinary bladder contains dark straw coloured urine due to excretion of excessive amounts of urobilinogen. The urine is not bloody and not tinged with haemoglobin.

97. Ascariasis in animals :-

It is caused by round worms.

Necropsy lesions :- Post-mortem lesions vary with the stage of development of parasites. In the early stage of infection, liver is enlarged in size and swollen, congested and surface shows haemorrhages. Lungs shows haemorrhages, exudation and cyanosis, larvae are not seen by naked eye. Scrapings of bronchial mucous shows the presence of larvae. Plueral cavity contains bloody fluid.

In chronic cases, liver show white spots on the surface. Due to diffuse fibrosis, liver becomes contracted, hard to cut, firm and granular surface. Carcass is emaciated and some shows changes of jaundice. Emphysema and thickened fibrosed parts are found on the lungs. Large number of roundworms are found in the lumen of intestine.

98. Strongylosis in horses :-

It is caused by strongyles round worms.

Post-mortem lesions :- Important autopsy changes are anaemia, emaciation, presence of numerous adult worms in

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caecum and colon. Mucosa of caecum and colon show biting haemorrhages with haemorrhagic enteritis. Small nodules are found in mucosa of large intestine. Lesions of arteritis in mesenteric and occasionally iliac artery are seen. Wall of these artery is thickened. Liver shows changes of ischemia or infarction in part of intestine.

99. Oesophagostomiasis :-

It is nodule worm disease of cattle & sheep.

Changes of anaemia and emaciation are seen in the dead body in which conjunctivae of eyes and body mucous membranes are pale. Muscles are atrophied. Subcutaneous fat becomes jelly like. Several adult worms are found in the lumen of large intestine. Numerous nodules of different sizes are present in the lumen of intestine. Nodules are hard and calcified. Haemorrhages and inflamed areas are found in the mucosa of caecum and colon.

Diagnosis :- (1) Diagnosis is made by detecting eggs or fourth stage larvae in the faecal examination.

(2) By post-mortem examination, in which adult worms and nodules are found in the large intestine. Nodules are seen from serosal surface of intestine.

(3) Definite diagnosis of oesophagostomiasis is done by identification of larvae from faecal culture, because eggs of O. columbianum can not be differentiated from those of other gastroentestinal namatodes, particularly in sheep. Hence, faecal culture is made and larvae are examined.

100. Hook Worm disease :-

It is caused by Ancylostoma of dog.

Autopsy lesions of hookworms :- Lesions of anaemia and emaciation, such as pale mucous membranes, anaemic conjunctivae of eyes, atrophied muscles and jelly appearance of subcutaneous fat are found. The liver is swollen, light brown colour, easy to cut and bulges on incision which are indicatives of fatty changes. The mucosa of intestine shows numerous small red bite marks of the worms. Numerous worms are found attached to mucosa of intestine or free in the lumen. Worms appear as grey or red depending on the amount of blood present in the intestine of parasites.

Characteristic lesions are seen in the lungs in the larvae

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break into the alveoli from the pulmonary capillaries, haemorrhages occur. Haemorrhages are severe in heavy infection. Worms cause leucocytic infiltration and pneumonia. Fibrosis of affected lung parenchyma is a common sequel.

101. G.I. nematodes :-

Post-mortem lesions :- Adult worms are found in the lumen of small intestine or abomasum depending upon the location and site of parasites. Carcass is emaciated and dehydrated. Mucous membranes of body are pale and anaemic. Small round nodules of 1-2 mm in diameter are found in abomasal mucosa in case of ostertagia and Trichostrongylus species. These nodules are characterised by granulomatus inflammation with leucocytic infiltration and fibrous tissue proliferation around the larvae. In other, haemorrhagic abomasitis, gastritis or enteritis are found. Focal haemorrhages are seen in mucosa in intestinal trichostrongylosis with atrophy of villi of intestine.

102. Haemonchosis :-

It is caused by haemonchus in sheep and goat.

Necropsy lesions :- Anaemia, emaciation and anasarca are seen in which mucous membrane and conjunctiva are pale. Subcutaneous fat becomes gelatinous tissue. Oedematous swelling are found under jaw and occasionally in ventral abdomen. All the visceral organs are pale or chalky white. Blood becomes thin and watery. All body cavities contained excessive fluid. The liver becomes light brown, soft, swollen, easy to cut and incised portion bulges indicating fatty changes.

Abomasum shows large number of worms which are found motile till body is warm. Small ulcers and several small red bite marks are found on the mucosa of abomasum. Fluid and contents of abomasum are brownish colour due to presence of blood.

103. Verminous pneumonia :-

It is caused by nematodes.

Necropsy lesions :- There is enlargement of lungs due to oedema and emphysema, areas of collapse which appear dark pink colour and haemorrhagic bronchitis. Froathy exudate in the lung parenchyma is seen. Regional lymph glands are enlarged.

Adult of dog lungworm, filariodes osleri are found in

granuloma found in the mucosa of trachea and bronchi. Sometimes, these granulomatous nodules cause obstruction of respiratory passage resulting into death due to asphyxia. F.milksi and F.hirthi also produce granuloma or small nodules in the lungs which are seen by naked eyes under pleura.

104. Dirofilariasis of dog :-

It is caused by Dirofilaria immitis.

Post-mortem lesions :- Masses of worms are found in the right auricle, right ventricle and upper pulmonary arterial tre. The right side of heart is extensively dilated and hypertrophied. Liver, lungs, spleen and intestine are congested. Abdominal cavity of carcass shows the changes of cirrhosis in which liver is pale, firm, hard to cut, contracted with granular surface. These changes of liver occurs due to fibrosis. Changes of fibrosis of lungs and spleen are also present. In some cases, oedema of lungs kidney, liver and other parts of body are found during autopsy.

105. Habronemiasis of horses :-

It is caused by nematodes.

Post-mortem lesions :- Tumourous growth are found in the mucosa of stomach in case of H.megastoma. In other two Habronema infections, carcass shows the presence of ulcers and thickening of mucosa of stomach. Adult worms are found in other two Habronema infections.

Granulomatous lesions are found in cases of cutaneous habronemiasis. Similarly in case of conjunctival habronemiasis, lesions on the nictitating membrane are as large as 5 mm diameter.

106. Spirocercosis of dog :-

It is caused by spirocerca lupi.

Post-mortem lesions :- Characteristic lesions are the presence of tumour like nodules on the wall of aorta and oesophagus. Nodules show the presence of worms. These worms are found protruding from small orifices from nodules. Lesions of pulmonary osteoarthropathy are found in some cases. In some cases, kidneys show the presence of numerous abscesses of different size. Lesions of exostosis of thoracic vertebra are found. Occasionally malignant tumours are found on wall of oesophagus.

107. Trichinosis of pig :-

It is caused by Trichinella spiralis.

P.M.lesions :- Main gross lesions are haemorrhages, congestion and thickening of mucosa of small intestine caused by adult worms. Affected muscles by larvae show the presence of numerous hard swelling or cysts which are firm in nature due to calcification. Adult worms may be found in the intestine and larvae in the cysts of affected muscles. Pathognomic lesions of this disease in man is oedema of eyelids, face and other parts of body.

108. Dioctophymosis of dog :-

It is caused by Dioctophyma renale.

Post-mortem lesions :- One of the kidney is found completly damaged with hydronephrosis. Adult worms are found in the pelvis of kidney, sometimes hanging in the ureter or in the bladder. Lesions of chronic peritonitis are found. The surviving kidneys is found highly enlarged in size. Sometime, both kidneys are found hydronephrosis with complete damage.

109. Stephanurosis in swine :-

It is caused by Stephanurus dentatus.

Post-mortem lesions :- Putrifacation of carcass occurs very rapidely. Adult worms are found in kidney, ureter and perirenal fat. Liver is hard, firm, contracted and granular surface. It is very hard to incise and cirrhosis due to extensive fibrosis and intense luecocytic infiltration.

110. Liver flukes of cattle & sheep :-

It is trematodes disease.

Autopsy lesions :- In acute fascioliosis, the lesions are those of traumatic hepatitis produced metacercaria. Liver shows rupture of capsule with haemorrhages and blood clots in the peritoneal cavity. Liver is enlarged in size, pale and friable. Surface of the liver shows numerous haemorrhagic tracts with the presence of fibrinous clots. Blood or fibrinous clots are also found throughout the peritoneal cavity. The immature flukes are very small in size and can be demonstrated by settled in bottom of water. Peritoneal cavity shows the presence of excess blood tinged fluid.

Chronic hepatic fascioliosis is very common in cattle. The most important post-mortem lesions are a progressive biliary cirrhosis. Liver is very hard, fibrotic and difficult to cut. The bile

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ducts are found greatly enlarged, thickened and prominent and appear as grey or white tortuous cord like structures. The wall of the ducts are commonly calcified in cattle, they protrude markedly from the surface and very hard to cut with knife. They resemble the stem of a clay pipe, giving the common name of **"pipe-stem liver".** The large, leaf like flukes are found in the enlarged and thickened bile ducts, particularly in the ventral lobe of the liver. Hepatic lymph nodes are dark brown in colour. Affected animals are emaciated and anaemic.

111. Paramphistomiasis of cattle & sheep :-

It is stomach flukes disease.

Post-mortem lesions :- Mature or immature red coloured flukes are found in the duodenum and abomasum. Mucosa of duodenum is highly congested and haemorrhagic. Lumen of duodenum shows the presence of blood stained injesta. Muscles of the body are atrophied and body cavities contained excessive fluid. Mucous membranes of body are anaemic with subcutaneous oedema.

112. Schistosomiasis :-

It is a trematodes disease.

Post-mortem lesions :- In the definitive hosts, injury of different organs is caused by the presence of (1) Adults in veins (2) Ova in veins or in tissue (3) Skin penetration by cercaria and (4) Migration of metacercaria in different organs.

Hence phlebitis and occasionally venous thrombosis are found. Black pigment is found in liver and spleen. This pigment is formed due to consumption of red blood cells by adult schistosomes which release black pigment. Rupture of vein to release ova causing haemorrhages, anaemia and hypoproteinemia. In organs, ova produces abscess, Which converts into granuloma or pseudotubercle in which ova are found inside the granuloma. As disease progresses, fibrosis around the granuloma leads further destruction of tissue.

Penetration of skin of man and animal by cercaria results into development of cutaneous lesions. In the dermis, leucocytic infiltration made of neutrophils, eosinophils and lymphocytes occur. This is accompanied by urticaria, itching and formation of tiny nodules that raise the epidermis. This is called as **"cercarial**

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dermatitis" or "swimmer's itch" or **"Swamp itch"** or **"Collector's itch".** These designations have been given because cercarial dermatitis, occurs mostly in agricultural workers, collectors and swimmers caused by cercaria of schistosomes.

In human beings, squamous cell carcinoma occurs in urinary bladder, frequently, complicated with vesicular schistosomiasis. Glomerulo nephritis is also seen in man, frequently, associated with schistosomiasis. It is probably immune complex origin.

Hence, main post-mortem lesions are dermatitis, anaemia, emaciation, phlebitis, cirrhosis of liver, swelling of spleen and lymph glands. Congestion and haemorrhages in intestine or urinary bladder, granuloma in liver and other organs and pneumonic lungs are frequently seen. Abdominal cavity shows excess fluid indicating ascitis. Black pigments are found in liver and spleen. Adult parasite may be found in the veins in the fresh carcass. Small abscesses or granuloma are found in nasal mucosa in case of nasal granuloma.

113. Tape worm disease of animals :-

Necropsy lesions :- tape worms are found in the small intestine. Several ulcers are present on the mucosa of intestine indicative of attachment of parasites. Immature worms are found in biliary and pancreatic ducts, e.g. T. actinoides and S.hepatica associated with fibrosis and thickening of wall of the ducts. In horses, emaciation, ulcerative enteritis, oedema and partial obstruction of ileocaecal valve due to granulation tissue takes place.

114. Gid of sheep & goat :-

it is caused by larval stage of Multiceps multiceps.

Post-mortem lesions :- If death occurs at the early stage of infection, meninges show changes of inflammation and congestion. Surface of the brain shows the presence of numerous sinous tracks with young bladderworms.

Emaciation and anaemia are found when death occurs in later stages of disease. One or more cysts are found in the brain lying in a cavity surrounded by necrotic materials. Cysts contain clear fluid with numerous heads. Atrophy and perforation of skull are found in many cases. In some cases, coenuri are found in the spinal cord specially in the lumber, cervical and medullary region.

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115. Heart failure :-

It is two types namely (1) Acute heart failure with sudden death. (2) Congestive heart failure associated with vulvular stenosis or incompetence and with high blood pressure. The main lesions are congested & oedema of lungs in case of left side heart failure. Anasarca, hydrothorax, hydroperitoneum, hydropericardium with congestion and enlargement of liver are main lesions found in right side heart failure. Due to heart failure, normal blood circulation of body is not maintained.

116. Icterus :-

All the visible mucous membranes are yellow colour. Urine and congunctivae of eyes become yellow. Colour of stool becomes black or steel colour in obstructive jaundice.

117. Drowning :-

Skin becomes corrugated. White froathy exudate oozes from mouth & nostrils. Rigor mortis appears very rapidely. Lungs are distended like baloons or spongy and oedematous. Trachea, bronchi & lungs show the presence of water. Stomach also contains excess water. Death occurs due to asphyxia or shock.

118. Peritonitis :-

It is a inflammation of peritoneum. Lesions are haemorrhage, exudation and fibrin deposits in the peritoneal cavity with adhesions. Frequently, peritoneal cavity contains purulent fluid with thick cheesy covering over the visceral organs.

119. Fluorine poisoning :-

It is a chronic disease caused by continued ingestion of small but toxic amount of fluorine in diet or drinking water. It is characterised by mottling teeth & osteoporosis. Bones become chalky, white appearance, brittle with exostoses. Kidneys, liver, heart, adrenal & brain are swollen and degenerated. Chemical examination of bone shows greatly increased fluorine contents.

120. Copper poisoning :-

It occurs due to accidental administration of large quantity of soluble copper salts resulting into acute poisoning, but chronic copper poisoning occurs in the areas where the soil is naturally rich in copper. In acute poisoning, severe gastro enteritis and ulceration in the mucosa. Liver and kidenys show changes of degeneration. In

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chronic copper poisoning, liver is swollen and deep yellow, spleen becomes friable with soft pulpy, kidneys are swollen, Gall bladder contained excess thick bile and urinary bladder showed the presence of yellow coloured urine. As other poisoning cases, injesta of stomach & intestine & tissue should be chemically analysed for confirmation of this poisoning.

121. Sodium chloride poisoning :-

Excessive intake of sodium chloride produce gatroenteritis and diarrhoea. Toxicity also occurs when salt intake is not excess but water intake is very les resulting into oedema of brain with nervous symptoms. In acute cases, congestion is found in the mucosa of omasum and abomasum (stomach). Heart shows the changes of hydropericarditis. Mucosa of intestine is congested & haemorrhagic. Injesta of lumen of intestine is blood colour.

122. Lead poisoning :-

It is commonest poisoning in animals, occurs due to accidental ingestion. The main post-mortem lesions

are those of gastritis (abomasitis), enteritis, severe congestion of lungs, degeneration of liver and kidneys, epicardial haemorrhage and congestion of meninges.

123. Selenium poisoning :-

The main lesions are congestion and necrosis of liver, medulla of kidneys, petechial haemorrhages of epicardium of heart, impaction of rumen with ulceration, congestion & necrosis of abomasum and small intestine. In chronic cases, changes of dilatation of heart, cirrhosis and nephritis are found.

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CHAPTER :- 4

REPORT OF POST-MORTEM EXAMINATION OF DIFFERENT DISEASES.

Post-mortem reports of different disease conditions of animals and poultry are given in this chapter for understanding. Veterinarians will gain knowledge about the alterations occurring in different organs during disease. These reports are imaginary but lesions mentioned in the reports are generaly found in those diseases. During post-mortem examination, lesions may differ from animal to animal and from disease to disease. Hence, it is necessary to write correct P.M. reports as per lesions seen in the dead animals. P.M. reports are "written documents" which are examined even after several years by higher authority, expert pathologist, police and court of law. There are several instances and examples of different states in which autopsists faced explanation, warning, suspension or dismissal from service particularly in Insurance and Medico-legal cases or in heavy death in farm in which P.M. report was not written correctly.

Reports of post-mortem examination of following pathological conditions are given :-

1. Poisoning in she goat.
2. Injury by sharp pointed weapon in pig.
3. Injury by sharp piercing object in pig.
4. Gun shot injury in calf.
5. Road accident of buffalo.
6. Internal haemorrhage in cow.
7. Traumatic splenitis in cow.
8. Burn injury in she goat.
9. Electric current in cow.
10. Heat-stroke in police-dog.

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