

Basic Postmortem Requisites for Zoo Veterinarians : A review

Postmortem of animals which have expired in captive conditions is a very essential part of zoo management. Postmortem enables veterinarians to ascertain cause of death of the animal which is necessary for preventing further deaths in case of contagious diseases, in case of animal behaviour which can be managed if understood, in case of accidents, which can be prevented if something in the environment of the animal was wrongly placed, etc.

In order for Postmortems to be most useful for prevention of accidents and treatment of diseases in future, all values in making the investigation have to be standardised to the extent possible, and all features in the animals have to be identifiable, both as healthy and as diseased or abnormal objects.

Hence the book, Basic Postmortem Requisites for Zoo Veterinarians, authored by Dr. Mathew C. John, Dr. Murali Manohar, Dr. P. Ramadass, and Dr. M. G. Jayathangaraj, all from various departments (Wildlife Sciences, Pathology, and Animal Biotechnology) of the Madras Veterinary College, Chennai, was very much required and will be much utilised and admired by zoo veterinarians of India.

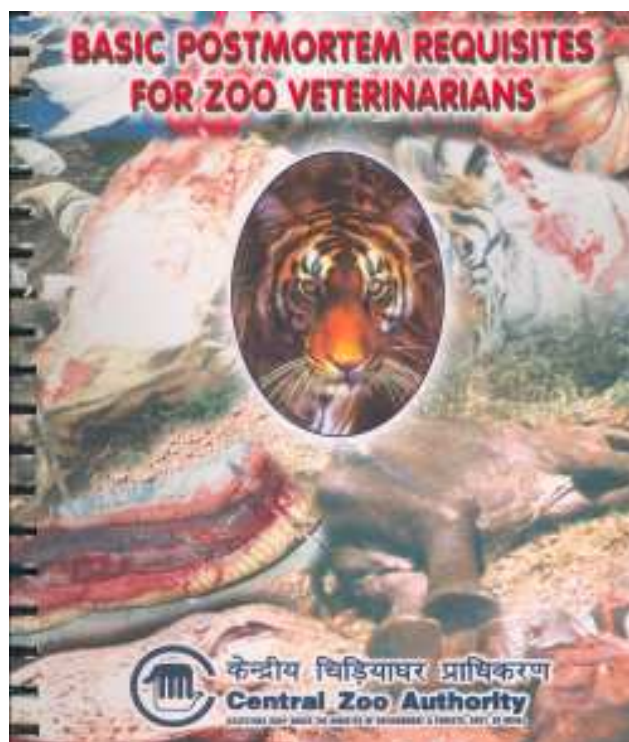
The book takes up both rationale and method of postmortem examination as well as how to transport specimens and handle samples. The book also reviews laboratory procedures demanded in various situations and projects possible diagnosis.

The book takes up first the specialized anatomical features in wild animals for orientation for postmortem, such as Non-human Primates, Elephants, Bovids, Equids, Camelids, Rhinoceros, Hippopotamus, Cervids, Giraffe, Pronghorn, Tapirs, Felids, Suids, Pangolins, Edentata, Marsupials, Aves, Chelonians, Crocodiles, Snakes, Amphibians, and Lizards.

In the Post-mortem examination, there are general procedures to be adapted, e.g., necropsy procedures in different species of wild animals: Elements, Carnivores, Ungulates, Non-human primates, Marine mammals (Dolphins) Aves, Reptiles, other class of wild animals. Sampling procedures and Techniques: Histopathology, Common fixatives, Microbiology, Parasitology (a) Faecal examination, (b) Examination of materials for dermatophytes, Examination of skin-scraping for mites, Toxicology.

Forensic aspects of postmortem in wildlife have been described in detail including gunshot wounds, arrow wounds, traumatic wounds, electroaction, poisoned wildlife, hair identification, time of death, forensic entomology.

Zoonotic diseases of wild animals account for many illnesses at the zoo since animal handlers come close to animals and may pass on bacteria, as well as visitors transmitting airborne bacteria. Zoonoses is defined and preventive steps for wildlife outlined, including control of zoonotic diseases in wild animals.



Zoonoses are listed according to type, such as: Viral diseases, Rickettsial diseases, Bacterial diseases, Protozoal diseases, Trematode diseases, Cestode diseases, Nematode diseases, Arthropod & insect infestations.

Sanitation is crucial in postmortems in order to ascertain the true cause of death, as well as to prevent the spread of whatever agents that might have been responsible. The book discusses disinfection and disinfectants including Non-chemical, Chemical and radiation disinfectants and the concentration for use.

Separate chapters are devoted to disposal of carcasses, preparation of smears, commonly used staining procedures, tissue processing for histopathological examination, Serological methods of Diagnosis of Diseases: Agar gel precipitation test (AGPT), Counter Immuno Electrophoresis (CIEP), Hemagglutination test (HAT), Fluorescent Anti-body test (FAT), Enzyme Linked Immunosorbent Assay (ELISA), Dot Elisa, DNA Based methods of diagnosis (a) Polymerised chain reaction (PCR), (b) RT-PCR, Nucleic acid probe preparation and Hybridization.

Several useful appendices complete the book on following topics: Wildlife Diseases and Material Sampling, Proforma for Postmortem Examination, Parasitic Ova of Wild Animals, Hematology, Differential, Chemistry & Electrophoresis of Wild Animals.

This excellent book has been published by the Central Zoo Authority. To obtain a copy write to: CZA, Annexe 5, Bikaner House, Shajhahan Road, New Delhi, 110 003. Email : cza@ndf.vsnl.net.in