



Autopsy in elephants

N. Vijayan and N. Divakaran Nair

The elephant is conspicuous for its massive size, which makes it different from other animal species. Constraints associated with the treatment of diseases is also applicable to the autopsy examination. Moreover an opportunity to conduct the postmortem examination before the autolytic changes sets in is also rare especially in the wild elephants.

However the autopsy should be conducted systematically with the objective of making a disease diagnosis as well as to learn the anatomical peculiarities. Since it yields precise information about the cause of death which often is not observable clinically, the autopsy should be conducted by a group of experts from multidiscipline like pathology, microbiology and parasitology along with skilled labourers to assist in cutting and opening the body.

The importance of clinical history of the illness and the management practice holds good as in the autopsy in any other species. The detection of severe hemorrhagic ulcerative gastritis without the observation of any notable clinical symptoms is a serious factor to be thought off. This indicated the need to stress on the training of mahouts to observe even the minor behavioral changes in the animal.

To move, manipulate or to transport a dead elephant weighing 2000-3000 kg. a mechanical crane, a tow

truck or even a proclane can be used. As in other animal species after the general examination of the body, it is to be cut open in a systematic way. The usual practice adopted is to cut and remove the trunk and ear so that the operations at the cranial end can be made more easy. Head is decapitated so that the costly tusk can be removed taking utmost care without damaging the external surface of the tusks.

Another team of 3 or 4 skilled labourers can work on the flapping of the skin along with the muscles at the region of the abdomen. The skin can be reflected incising the skin and the muscles at the dorsal region and extending downwards into the midline of the abdominal region. Two assistants can help in retracting the skin using a rope and a crowbar.

The peritoneal cavity should be examined for the presence of abnormal contents. This becomes significant since cases of impaction leading to dilatation, gangrene and rupture of the intestine at the region of the colon resulting in peritonitis is quite common especially in captive elephants. The gastro intestinal tract can be pulled out identifying each part of the intestine. While doing so, the mesentry should be examined since any case of torsion or intussusception will show gangrenous changes in the affected part of the intestine along with the mesentry. The stomach should be removed separately. The spleen is seen attached to the greater curvature of the stomach. Inflammatory conditions varying from congestive changes to hemorrhages and ulcerative changes are also frequently encountered in young elephants which is suspected to be attributed to bacterial organisms like Salmonella or viral infections like Herpes.

The position, shape and colour of the liver, kidney, and spleen has to be noted. The consistency and the cut surface of the organs have to be examined in detail for the presence of any gross lesions. Pieces of tissues of approximately 0.5 to 1 cm. thickness has to be collected in 10% neutral buffered formalin for histopathological examination. The volume of the formaline solution should be 10 times the volume of the tissue.

The organs of the thoracic cavity should be removed after examination of the cavity for any abnormal contents. The thoracic cavity can be cut open in case of young elephants or the organs can be accessed through the abdominal cavity by piercing the diaphragm in case of adult elephants.

Lungs along with the associated lymph nodes should be examined for nodular, congestive or suppurative changes. Pulmonary tuberculosis has to be viewed

Dr. N. Vijayan and
Dr. N. Divakaran Nair
Centre of Excellence in
Pathology
College of Veterinary &
Animal Sciences,
Mannuthy



Carried over to page 51