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Pasturollesis: Complication of Metastatic Supporative pneumonia Severe Stress in Asian Elephant (*Elephas maximus*)

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The Asian elephant (*Elephas maximus*) is amega herbivores and represents one of the most critically endangered species of large mammals in the world. Few infectious diseases are responsible to decrease their number both wild and in semi-captive condition. Diseases that are shared between species also represent a potential burden to the whole ecosystem, affecting biodiversity, changing behavior or composition of animal populations, and even relegating species to the fringe of extinction (Daszak *et al*., 2000). Pasturollesis is an acute and often fatal disease primarily occurring in water buffaloes and cattle, but occasionally other domesticated and wild mammals and caused by particular serotypes of gram-negative bacterium *Pasteurella multocida* and manifested by an acute and highly fatal septicaemia.

Clinical History

A female Asiatic elephant aged approximately 60 years old at Kanha Tiger Reserve, Madhya Pradesh was suddenly fall on ground with clinical sign of respiratory distress, frothy discharge from trunk, shivering along with the high rise of body temperature and slowly there was development of oedema of sub-mandibular region. The elephant also showed the signs of excessive salivation. Frothy discharge from trunk was very thick and continually falls as drop by drop. The elephant was recumbent died within 36 hrs course of treatment.

Gross finding and Discussion

Gross examination of carcass showed dehydration with pale mucous membrane, edematous swelling in throat region and swelling contains coagulated serofibrinous mass. Lymphadenitis were present, the lung parenchyma showed hepatization with numerous abscesses of varying sizes containing thick pus, bronchi was filled with the frothy mucous and generalized edema, congestion and hemorrhages. Trachea was congested and contained froth mixed. The heart showed hemorrhagic endocarditis. Petechial hemorrhages on the epicardium were prominant. Liver was swollen with focal areas of haemorrhages. The spleen was congested along with haemorrhagic spots, intestine showed oedematous thickening with haemorrhages in mucosal wall. Kidney showed congestion on medulla with haemorrhages in subscapsular region. Lymph nodes were oedematous enlarge and haemorrhagic. Thoracic and abdominal cavities contained blood–tinged fluid.

Histopathological examination revealed hepatisation with thickened inter lobular septa at places, congestion and edema fluid in bronchioles. Mononuclear cells were infiltrating in the lung tissue

and blood vessels contained bipolar shaped bacteria. Heart showed diffuse hemorrhages with focal necrosis of the muscle fibers. Kidney revealed extensive vascular damage along with variable degrees of glomerular capillary degeneration and tubular epithelial desquamation. Microscopic examination showed impression smears of lung, and heart blood revealed bipolar organisms. Other microbiological examination of swabs collected during necropsy examination revealed gram negative organisms.

Hemorrhagic septicemia is one of the most important diseases of bovines in South Asian and Middle Eastern countries. (Saini, *et al*.,1991). According to Benkirane and De Alwis (2002), animals can be cured only if they have been treated in the very early stage of the disease. Pasteurella multocida remains as commensalin bronchi, terminal bronchioles, and alveoli. This pathogen cannot invade lungs due to defense mechanism but stresses as climatic change, malnutrition, transport, etc. trigger the organism and lungs are unable to clear the pathogens (Harper et al., 2006). Similar type of clinical sign, gross, microscopic and microbial observation in pasteurellosis was also observed by Harish *et al*., (2009). Factors that may predispose elephant to pasteurellosis in this case may be supportive metastatic abscess those associated with localized supportive wound lead generalised infection on lower respiratory system. Furthermore, the results obtained in present investigation regarding the haemorrhagic septicaemia occurrence in elephant could be used as baseline data in order to control and prevent the outbreaks of disease. The significance of haemorrhagic septicaemia to elephant populations is unknown and requires further investigation.

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Reference:

Benkirane, A. and De Alwis, M.C.L. (2002). Haemorrhagic septicaemia, its significance, prevention and control in Asia. Vet. Med. Czech., **47**: 234–240.

Daszak, P., Cunningham, A. A., Hyatt, A. D. (2000) Emerging infectious diseases of wildlife–threats to biodiversity and human health. Science **287**(5452):443–449.

Harper, M., Boyce, J.D. and Adler, B.(2006). *Pasteurella multocida* athogenesis:125 years after Pasteur. *FEMS Microbiol. Lett.,***265**: 1–10.

Harish, B.R., Shivaraj B.M., Chandranaik, B.M., Venkatesh M.D., and Renukaprasad C., (2009) Hemorrhagic Septicemia In Asian Elephants *Elephas Maximus* In Karnataka State, India Journal of Threatened Taxa March 2009 **1**(3): 194-195

Saini, S.S., Sharma, D. R., Gill, B. S., Kwarts, M. S., Singh, J., Sharma, J. K., Dhillon, S. S., and Ramneek, R.(1991). Reemergence of hemorrhagic septicaemia in Punjab. Indian J. Anim. Sci. Vol. **61**(11): 1178-1180 (Vet.Bull,63(1):31).

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