Abstract No: 359 (Poster) ***Food, Nutrition and Livestock***

RARE OCCURRENCE OF FATAL *CLOSTRIDIUM PERFRINGENS* SEPSIS WITH BONE MARROW SUPPRESSION IN A DOG

M.A. Salgadu[1], H.M.H.S. Ariyarathna[2], T.P.M.S.D. Bandara[1], E.I. Rajapaksha[2], S.K. Thalagala[3] and H.R.N. Jinadasa[1]*

[1]Department of Veterinary Pathobiology,
Faculty of Veterinary Medicine and Animal Science, University of Peradeniya, Sri Lanka
[2]Department of Veterinary Clinical Sciences,
Faculty of Veterinary Medicine and Animal Science, University of Peradeniya, Sri Lanka
[3]Sri Lanka Army, Ganemulla, Sri Lanka
**rnjinadasa@yahoo.com*

Clostridium perfringens is a Gram-positive, anaerobic, spore-forming rod, ubiquitous bacterium in the environment and intestinal tracts of humans and animals. It is a major cause of food poisoning in humans in developed countries. Additionally, this organism may cause clinical disease manifested as tissue necrosis, septicaemia, and gas gangrene, due to disturbances in normal gut flora and gut motility. In the case described here, a 7-year old Labrador Retriever, trained for explosive detection had been treated initially with cefuroxime (750 mg, twice daily, I/V) for 3 days followed by meropenem (500 mg, twice daily, I/V) for 3 days. It had high fever and severe pancytopaenia throughout the duration of the illness. The carcase was presented for necropsy within four hours of death. Gross pathology and bone marrow cytology strongly suggested myelosuppression. Additionally, the presence of severe diffuse necrotic and emphysaematous splenitis, severe multi-focal necrotic hepatitis, severe diffuse necro-haemorrhagic myelitis and severe acute multi-focal follicular uro-cystitis strongly suggested death due to septicaemia, secondary to severe myelosuppression. Further, direct smears from bone marrow revealed large numbers of Gram-positive rods with a clearly demarcated halo suggesting *C. perfringens* sepsis. A pure culture of anaerobic Gram-positive rods with double zone of haemolysis was recovered from bone marrow. The identity of the organism was confirmed as *C. perfringens* using conventional biochemical tests. Even though it is a commensal, *C. perfringens* can cause occasional severe acute fatal disease in animals and humans. However, *C. perfringens*-associated enteric disease in dogs is not well-characterised, but may range from mild and self-limiting to fatal acute haemorrhagic diarrhoea. Further, in this case sufficient information is not available to determine the cause of bone marrow suppression and the origin of infection, both of which might have been induced by prolonged usage of certain antibiotics including meropenem. Interestingly, it has been reported in humans that *C. perfringens* can cause acute cystitis and sepsis in bone marrow-suppressed patients. Severe *C. perfringens* infections have been reported from broiler flocks in Sri Lanka, but according to our knowledge, there are no previous reports of fatal *C. perfringens* infections from dogs in Sri Lanka. Therefore further studies are needed to determine the factors affecting the epidemiology of *C. perfringens* infection in dogs in Sri Lanka