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E.COLI INFECTION IN CROSS BREED JERSEY CALF- A CASE REPORT

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ABSTRACT A carcass of cross breed jersey calf was presented to Department of Veterinary Pathology. Detail postmortem examination was carried out. The gross lesions revealed deposition of fibrin on abdominal vital organs. On microscopic examination liver showed severe centrolobular congestion. The intestine revealed mild enteritis and lung revealed mild congestion. On the basis of gross lesions, suspected samples were collected for microbiological examination which were further confirmed E.coli on the basis of cultural examination and staining.

KEYWORDS : Cross breed jersey calf, E.coli

Introduction

Bacterial infections are an important cause of morbidity and mortality in large animal neonates. Among the infectious diseases, diarrhea is most important disease in calves. Diarrhea is one of the important cause of economic losses in livestock industry. The problem becomes more serious when it comes to its public health implications. There are numerous infectious agents causing diarrhea in animals which are zoonotic and have been associated with food born diseases. In case of neonates, E.coli is the leading cause of diarrhea and septicemia in neonates. (Islam, Rahman, Nahar, Khair, and Alam, 2015) Furthermore, calf colibacillosis caused by ETEC, is one of the mortality factors among the new born calves which has a wide spread geographical distribution. It is also the most common disease to which veterinarians are exposed and causes huge economic loss in dairy forms. (Golchin, Shojaepour, Roosta and Mirzabeigi, 2016) Considering the facts and today's field situation, the scientific documentation of neonatal mortality for development of action plan in future is very much essential. The present case reveals intestinal as well as extra intestinal E.coli infection in calve and thus we consider it important to put it on record.

Material and Method

A carcass of cross breed jersey calf was presented to Department of Veterinary Pathology, NVC, Nagpur. The detail postmortem examination was carried out and gross lesions were noted. Morbid tissues were collected in 10% formalin. Tissues were then processed and embedded in paraffin. Sections of 4 microns were taken and stained with routine H&E stain (Luna, 1968). On the basis of gross observations samples from vital organs were collected in nutrient broth which was subsequently streaked on EMB agar which on the basis gram's staining and colony characteristics were confirmed as E.coli.

Result and Discussion

The carcass was presented with history of diarrhea for 7 days. Gross observation revealed severe peritonitis. There was severe fibrinous exudates deposition on peritoneum leading to fibrinous peritonitis. Liver was conjgested and showed fibrinous exudates leading to perihepatitis. Intestinal wall was congested and messentric lymphnode was enlarged. Kidneys were also congested. (Londhe, Pruthi, Gupta, Renu, Sharma, Nehra and Deepika, 2012)

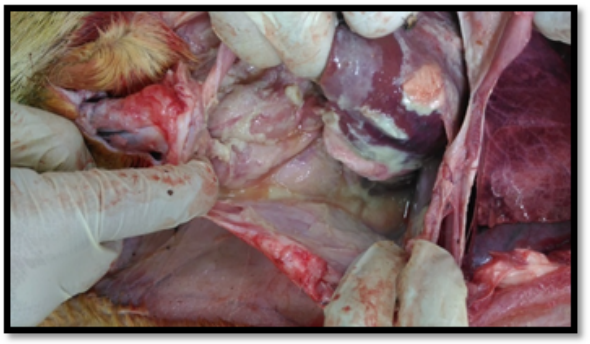

Fig.1 Deposition of fibrin layer on vital organs.

Microscopic examination of liver revealed severe congestion in liver with infiltration of inflammatory cells. There was increase in sinusoidal space with perihepatitis. (Fig. 2). Intestines revealed infiltration of multinuclear inflammatory cells with sloughing of epithelial layer. (Fig. 3). The lesions are might be due to septicemia caused due to E.coli infection. The lesions in intestine matches the earlier observation recorded in calf (Londhe et. al, 2012).

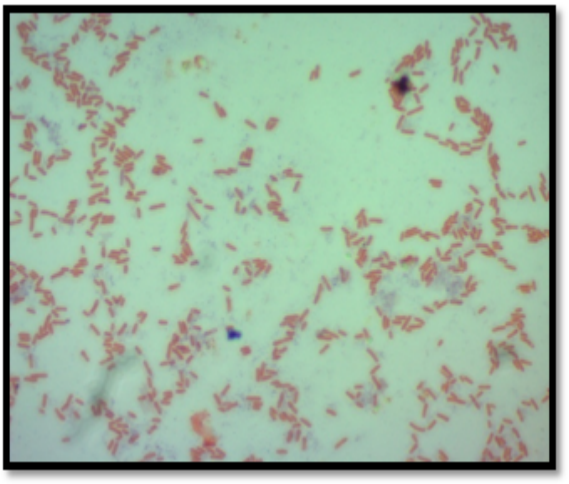

Fig.2 Centrolobular congestion in liver

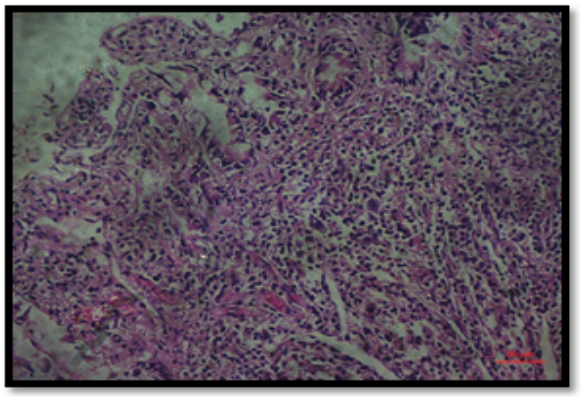

Fig.3 Mild enteritis with infiltration of leucocytes

Microscopic examination revealed flat pinkish e. coli colonies on EMB agar with metallic shine. The colonies were confirmed as E.coli on the basis grams staining which revealed pink colour rods (Fig. 4).

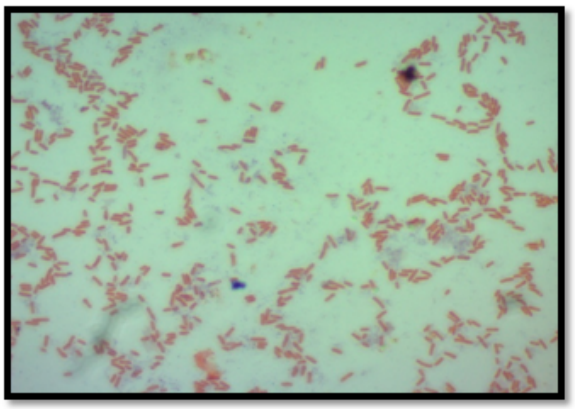

Fig. 4 Gram staining E.coli (Pink coloured gram negative tumors)

Concurrent E.coli infection i.e intestinal and extra intestinal is rarely reported in calves and considering this we think it is important to put on record.

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