

Intussusception in a Rabbit Associated with pasteurellosis

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Introduction

Pasteurellosis is a common bacterial disease of rabbits and its outbreak often results in considerable economic losses in rabbitries (Deeb and DiGiacomo, 2000). The infection may be asymptomatic or it may show symptoms only when stressed. Prevalence of pasteurellosis was observed in a rabbit unit of Post Graduate Research Institute in Animal Sciences (PGRIAS) Kattupakkam, Tamilnadu Veterinary and Animal Sciences University (TANUVAS) between September 2012 and March 2013. In this unit, many of the affected rabbits were between 5 and 6 weeks of age group. This paper deals with a rare occurrence of intussusception associated with pasteurellosis in a rabbit. Intussusception is the invagination of one segment of intestine into another (Vegad and Swamy, 2010).

Materials and Methods

A 8 weeks old, female New Zealand White Rabbit was presented for post-mortem examination at PGRIAS, Kattupakkam, TANUVAS. The rabbit was found dead suddenly without showing any clinical signs. Post mortem examination was conducted. There was a history of

outbreak of pasteurella in the same rabbit unit for the period of last four months. Impression smears of trachea, lung, liver and heart were collected and stained with Giemsa stain.

Heart blood swab from the dead rabbit was collected in accordance with Quinn *et al.* (2011) and sent to Central University Laboratory (CUL), TANUVAS for cultural identification of organism and antibiotic sensitivity test. Bile content from the gall bladder was examined for oocysts of protozoa.

Results and Discussion

At necropsy, a 15 -20 cm of ileum was found to have telescoped into another part (Fig.1 and 2).





Fig. 1 and Fig. 2: Intussusception in Caecum of a Rabbit

The intussusception was ileo-ileal. Posterior part of telescoped portion was degenerated. The affected part was bluish dark-red and swollen. The gross pathological appearance of heart and trachea were congested. Liver had a mottling appearance. White spots were observed on entire area of liver. Stained impression smears of trachea, lung and liver of dead rabbits showed the presence of bipolar organisms (Fig. 3). Cultural test identified the organism was *Pasteurella spp.* And the results of antibiotic sensitivity tests showed sensitivity to gentamicin, ciprofloxacin and amoxicillin and resistance to penicillin, sulphadiazole, oxytetracycline and enrofloxacin. No oocysts were found in the bile.

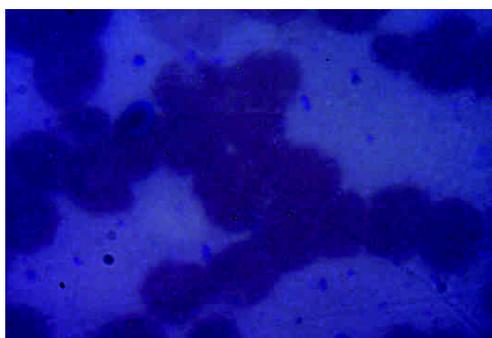


Fig. 3: Bipolar Organisms seen in Stained Impression Smear of Trachea, Lung and Liver

Intussusception is telescoping of a portion of intestine into another, usually

the anterior into the posterior (Sastry, 2001). In this present case intussusception might be due to hyperperistalsis induced by *Pasteurella* infection of intestine. Weisbroth and Scher (1975) stated that the cause of intussusceptions is often unknown, but is thought to be associated with intestinal irritability and hypermotility. Queensberry and Carpenter (2004) reported that intussusception is not common in lagomorphs but has been observed occasionally associated with bacterial or protozoal infection of intestine. Intussusception causes mesenteric vascular compression resulting in venous stasis, hyperemia and swelling. Within hours, fibrinous adhesions can form between the serosal surfaces in the intussusception, preventing the condition from resolving. Usually, the condition then develops to coagulative necrosis of the affected area and death of the animal (Seibold and Wolf, 1971). Premalatha *et al.* (2009) stated that post mortem examination of rabbits infected with pasteurellosis revealed congestion of trachea and lungs and necrotic foci on liver. Our findings are in agreement with her. So presence of bipolar organisms in impression smears of trachea, lung and liver along with culture identification of the organism confirmed that the rabbit was infected with pasteurellosis. Enrofloxacin was administered at 10 mg per kg b.wt for the rest of the rabbits in the unit (Rougier *et al.* 2006). Furthermore, there was no protozoal oocyst identified in the bile of the rabbit. Coccidial infection was screened from bile and ruled out because Ogunbiyi and Uche (1981) reported a case

of intussusception in rabbits associated with coccidiosis. From our knowledge intussusception in a rabbit with pasteurellosis is rarely reported. Antibiotic treatment and proper management practices with sanitary measures in the rabbit unit gradually reduced the further mortality of rabbits within a month of time.

Summary

During the period between September 2012 and March 2013 necropsy of rabbits suspected of pasteurellosis were conducted at PGRIAS, Kattupakkam, TANUVAS. Among them, a rare case of intussusception with pasteurellosis in a 8 weeks old female New Zealand White rabbit is observed. Intestinal infection and hyperperistalsis might be the cause of intussusception. Suitable remedial measures were also suggested to prevent further loss of rabbits.

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