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Clinical Article

UMBILICAL-ABOMASAL FISTULATION IN A CATTLE CALF

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SUMMARY

Umbilical hernia is the protrusion of abdominal contents through natural opening in ventral abdomen left by the umbilicus. In neonatal calves, congenital ventro-abdominal defects are relatively prevalent leading to defective closure of the ventro-abdominal mid-line wall with protrusion of abdominal viscera. Any trauma to hernial sac could lead to fistulation of hernia content. This emergency situation need prompt diagnosis and treatment with a variety of surgical techniques. In present case, ingesta was coming out from umbilical fistula, which was repaired surgically. In the event of difficulties such as obstruction, strangulation, or evisceration, emergency surgery is advisable.

Keywords: Abomassum, Calf, Fistula, Surgery, Umblicus

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A three-month old female calf was presented with history of passing digested ingesta through an opening at umbilical region since 4 days. History from the owner revealed thata soft swelling appeared at the umbilical area earlier followed by creation of an opening through which green colored ingesta was leaking out.The calf was showing inappetence but drinking water normally. Rectal temperature (37.3º C), pulse rate (70/min) and respiration rate (30/min) were found within normal range. Physical examination revealed communication of fistula through umbilical opening with fibrosis of skin surrounding the fistulous opening. Based on the history and clinical examination findings, it was diagnosed as the case of umbilical-abomasal fistula and surgical interventionwas planned accordingly.

The umbilical area was aseptically prepared and animal was kept in dorsal recumbency. Intravenous fluid (0.9% Normal Saline solution) was administered intraoperatively. Prophylactic antibiotics Cefotaxime (25 mg/kg I/V, Biotax, Zydus life sciences) was administered. The surgical procedure was performed under xylazine (Xylaxin, Indian Immunologicals Ltd., India) sedation @0.1 mg/kg BW IM and local infiltration with 2% lignocaine hydrochloride (Xylocaine 2%, Zydus Healthcare Ltd.) in a ring pattern around the hernial ring.

To improve visualization of the surgical site, the skin incision was enlarged and all ingesta were first removed from the fistulous sac. The abomasal defect was exteriorized and sutured with No. 1-0 polyglactin 910 (Aspiron, Meril Endo Surgery Pvt. Ltd.) in a Cushing suture pattern, followed by the Lambert technique, after the adhesions surrounding the abomasal wall were securely removed to prevent serosal injury. To facilitate flushing and proper peritoneal drainage, a no. 18FR foley's catheter (Mediease Foley's balloon catheter, Global Medikit Limited) was inserted into the abdomen. The hernia ring was closed by placing a series of vest over pant type sutures through its edges using No. 3 braided silk. The skin flaps were opposed by cross mattresssuture pattern using No. 1 braided silk (Trelyon silk, Mco Hospital Aids Pvt. Ltd.). Post operatively, cefotaxime@ 20 mg/kg BW IM twice daily for 5 days, pheniramine maleate @1 mg/kg BW IM once daily for 3 days and meloxicam@0.4 mg/kg BW IM once daily for 5 days was administered. Owner was advised for daily antiseptic dressing of surgical site with betadine solution and skin sutures removal after 10-12 days. Foleys catheter was removed after 7 days when fluid production was significantly reduced to 1 ml/kg/day as a general rule. Animal recovered uneventfully with no reported reoccurrence and complications upto 4 months of follow up.

Umbilical-abomasal fistulas are infrequent in calves (Fubini and Ducharme, 2004) and they frequently develop in conjunction with umbilical hernia and omphalophlebitis (Alves *et al.*, 2013). In cow calves with umbilical hernia, the pyloric portion of the abomasum is commonly herniated (Fubini and Ducharme, 2004). However, calves have been documented with umbilical-abomasal fistulas as a result of repetitive friction, wound development, and umbilical infection infecting the underlying tissue and finally the abomasum (Newcomb and Mortom, 1970). According to the present case report, umbilical hernia which later developed into concurrent abomasal fistulation was presented at the age of three months. The exact cause of the abomasal fistulation could not be ascertained but is suspected to be caused by repetitive trauma due to friction, wound development and ultimately leading to abomasal

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Fig. 1. Image showing swelling and fistulous opening at umbilical region in a calf.

Fig. 2. Closer view of Image 1 showing ingesta coming out from the fistulous sac

Fig. 3. Exteriorized fistulous abomasal tract from skin defect.

Fig. 4. Complete healing (14 days post operatively).

fistulation. Umbilical hernia can be managed through different treatment regimens depending on the size of the hernial ring (Abdin *et al.*, 2001). Umbilical-abomasal fistulas require firstly closure of abomasum followed by hernia ring. The current case report emphasizeson the importance of prompt surgical intervention in calves with umbilical hernias associated with abomasal fistulation.

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