

## SUCCESSFUL MANAGEMENT OF UMBILICAL HERNIA WITH ABOMASAL FISTULA IN A BUFFALO CALF

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### SUMMARY

A three-month old buffalo calf was presented with the complaint of swelling at the umbilicus since birth. Swelling was ruptured spontaneously and greenish partially digested ingesta oozing out through a fistulous tract. Physical examination revealed hernial ring on periphery of the swelling. Laparotomy for the closure of fistula followed by herniorrhaphy was performed for management of the defect. The calf had an uneventful recovery and was reported to have normal appetite and rumination.

**Keywords:** Abomasal fistula, Herniorrhaphy, Umbilical hernia

Umbilical hernia is an abdominal wall defect resulting in round swelling at the point where the umbilical cord enters the body. Due to improper closure of the umbilicus opening at birth or from mal development or hypoplasia of the abdominal muscles (Singh *et al.*, 1989). A defect may remain in the mid ventral line to form a congenital hernial ring. Umbilical hernia occurs more frequently in bovine calves with comparatively higher incidence in females than in males (Tyagi and Singh, 2015). Umbilical hernia with entrapment of abomasum in the hernial ring in cow calves is common but its incarceration and necrosis resulting in formation of abomasal fistula is rare (Sangwan *et al.*, 2011). Umbilical-abomasal fistula may be critical as there is continuous loss of digesta along with digestive secretions from an unusual site which may further alter the electrolyte and acid base status of the calf. Abomasal hernia and fistulation following trauma have been reported in adult buffalo (Sobti *et al.*, 1998) and cow (Balagopalan *et al.*, 1993) but only few reports of abnormalities in buffalo calves have documented umbilical hernia with abomasal-umbilical fistula. The present paper reports a case of umbilical hernia with abomasal-umbilical fistula and its surgical management in a buffalo calf.

A three-month old male buffalo calf was presented to Veterinary Clinical Complex with the complaint of swelling at the umbilicus since birth which ruptured two days back (Fig. 1). A foul smelling greenish discharge was observed from the ruptured swelling which on examination was found to be partially digested ingesta. Palpation of the swelling and digital exploration through the rupture opening revealed the presence a hernial ring and fistulous tract in the centre of the swelling, respectively. The calf had normal appetite and defecation. Physiological parameters *viz.*, rectal temperature (101 °F), heart rate (62 beats/min)

and respiratory rate (12 breaths/min) were found to be in normal range. It was decided to perform laparotomy for the repair of fistula followed by herniorrhaphy of umbilical region. The calf was kept off feed for 24 hours and withhold water for 12 hours prior to the surgery and the surgical site was aseptically prepared using povidone iodine scrub. The calf was sedated with xylazine hydrochloride @ 0.03 mg/kg b.wt. intravenously and restrained in the dorsal recumbency. The surgical site was infiltrated with 2% lignocaine hydrochloride. An elliptical skin incision was made around the hernia sac and the adhesions between the abdominal wall and hernial sac were separated by blunt dissection. The herniated organ was confirmed as abomasum and the abomasal defect forming the fistulous tract with the skin was identified (Fig. 2). The defect was freshened, washed with normal saline and was closed by Cushing's suture pattern followed by Lembert's suture pattern using chromic catgut no. 1 (Fig. 3). Abomasum was further examined for any other defects and was repositioned. The peritoneal defect was repaired using simple continuous suture with chromic catgut no. 1. The muscles were reposed using overlapping suture pattern with Vicryl no. 2 and the skin was closed with silk in horizontal mattress pattern as per standard techniques. Postoperatively, strepto-penicillin @ 10 mg/kg b.wt. and meloxicam @ 0.5 mg/kg b.wt. were administered twice a day intramuscularly for five days and the calf was fed on milk for the next seven days. Surgical wound was dressed with povidone iodine solution and fly repellent spray. Skin sutures were removed after 14 days (Fig. 4) and the calf was normal in appetite and rumination.

Abomasum usually herniates in umbilical hernia but presence of umbilical-abomasal fistula is rare in calves (Fubini and Ducharme, 2004). Fistulas between abomasum and skin are commonly seen due to complication of right

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Fig. 1. Buffalo calf with swelling at the umbilicus



Fig. 3. After closure of abomasal defect

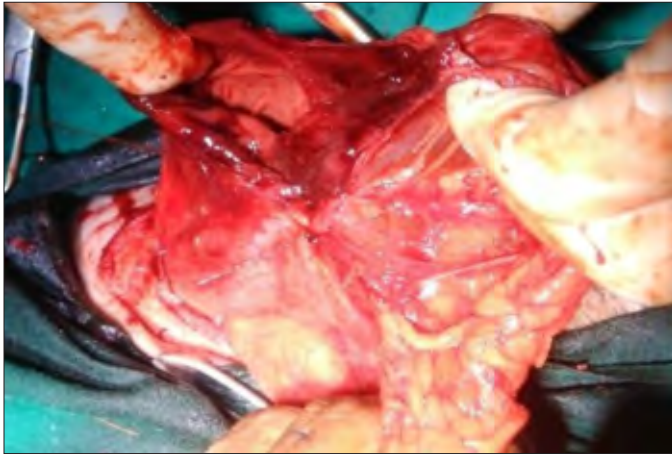


Fig. 2. Abomasal defect forming the fistula



Fig. 4. After 14 days postoperative

paramedian abomasopexy or toggle pin fixation of abomasal displacement (Fubini and Ducharme, 2004). Fistulas of compound stomach have been frequently observed and usually associated with trauma (Sharma *et al.*, 2011). However, umbilical-abomasal fistula has also been reported in calves due to repeated friction, wound formation and umbilical infection invading the underlying tissue eventually the abomasum (Newcomb and Mortom, 1970). But the cause of the abnormality in the present case could not be ascertained. The surgical management of umbilical hernia with abomasal fistula has good prognosis.

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