



Case Report

Surgical Repair of Atresia Ani et Recti by Cecostomy Operation in a Cross-bred Calf: A Case Report

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Abstract | Atresia ani with coli and recti has become a common problem of newborn calves. This clinical report is about the evaluation and survival after using of incisional cecostomy technique in a calf treated for intestinal atresia. A 2-day-old cross-bred bovine calf was brought to Veterinary Teaching Hospital, Bangladesh Agricultural University, Mymensingh, Bangladesh having atresia coli with atresia ani et recti. Bypass surgery was performed using incisional cecostomy techniques. After 10 days post-surgical administration of antibiotics and non-steroidal anti-inflammatory drugs, a good prognosis in the calf was noticed. After 1 month, a mild skin problem occurred which was minimized simultaneously.

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Introduction

Intestinal atresia is a congenital anomaly and may be fatal unless surgically corrected (Bademkiran *et al.*, 2009). It can be associated with other anomalies. This condition is caused by complete occlusion of the intestinal lumen (Constable *et al.*, 1989), due to part of the colon being missing. Atresia recti and ani can occur simultaneously with atresia coli. It is commonly observed in newly born animals during the first few days post-parturition (Suthar *et al.*, 2010). The main treatment of this condition is surgical and must be conducted as soon as possible, otherwise post-

surgical survival rates will be reduced (Kilic and Sarierler, 2004). Correction of the condition involves surgical anastomosis of the discontinuous segments in the case of atresia coli (Anderson and Rings, 2009). Unfortunately, surgical correction of atresia coli has a poor prognosis record (Sureshkumar *et al.*, 2011). As a result, alternative cecostomy techniques adopted for the treatment of this congenital anomaly. The present report describes a case of atresia coli with atresia recti and ani in a newborn cross-bred calf. The main purpose of treatment was to save the life of the calf with continual milking of the dams for the longest possible period.

Case presentation

A two days old cross-bred calf was presented to the Veterinary Teaching Hospital (VTH), Bangladesh Agricultural University (BAU), Mymensingh with a history of absence of anal opening after birth. Clinical examination of the calf revealed an increased heart and respiratory rate but the temperature was normal. Distended abdomen, absence of anus, and absence of meconium-filled rectum revealed after palpation of the anal region. On the basis of the history and clinical findings tentatively the case was diagnosed as atresia coli with atresia ani et recti and an incisional cecostomy technique was planned to correct the malformation.

Surgical technique

The calf was sedated with intramuscular atropine sulfate (0.04 mg/kg) and intravenous xylazine HCl (0.1 mg/kg) (Xyla[®], India). The calf was then placed in left lateral recumbency and prepared for aseptic surgery. Under local anesthesia with 2% Lidocaine HCl (Jasocaine[®], Jayson Pharmaceuticals Ltd, Dhaka, Bangladesh) right flank incision was made and the associated muscles were incised and without any exploration of the intestine, distended caecum (Figure 1) was observed. The cecal blind end was exteriorized gently without twisting, and fixed to the three abdominal muscular layers in the ventral commissure of the wound in a concentric manner by chromic catgut number 2 in an interrupted horizontal mattress suture pattern, without the involvement of the cecal mucosa. The rest of the flank incision was then sutured in a routine manner leaving an area of 4 cm diameter through which the blind end of the cecum was protruded. The skin around the created fistula was sutured along with the cecum involving the cecal mucosa by using nylon (Figure 2). Finally, the protruded cecum was excised to create the fistula through which compressed meconium was drained out.

Results and Discussion

Atresia coli with atresia ani et recti is a congenital anomaly (Constable, 1994). Rectal palpation before 40 days of gestation is the potential factor that causes congenital atresia of the intestinal loop (Durmus, 2009; Brenner and Orgad, 2003) due to hampering organogenesis. The present case showed a good prognosis and prompt recovery within 10 days. It may be due to early diagnosis and surgical correction

as mentioned by some previous reports (Ghanem *et al.*, 2004; Kilic and Sarierler, 2004; Ellison and Papazoglou, 2012). Wound infection was the only observed complication immediately after surgery which is consistent with Azizi *et al.* (2010) and it was managed by parenteral injection of antibiotics. Another complication we noticed was skin scald formation. This condition got our attention after about one month of surgery. It may be due to the continuous streaming of watery feces through the newly created opening (Abdelrhman *et al.*, 2013).



Figure 1: Distended caecum.



Figure 2: The newly created cecal opening on the right flank of a calf for defecation.

Conclusions and Recommendation

As there was no severe postoperative complication and the calf recovered promptly within a few days, it may be suggested that the incisional cecostomy technique is a successful approach as bypass surgery for the survival of calves with atresia ani et recti.

Novelty Statement

The atresia ani is a frequently occurring congenital anomaly in bovine calves. Sometimes the situation become complicated where to create anal opening in the perianal region become impossible. In this clinical case, we successfully performed a bypass opening at the flank region for normal defecation of the calf and ultimately the calf survived. The procedure, thus, is very much noble for the field veterinarian to save such complicated patients.

Author's Contribution

Md. Sabuj Rahman: Conducting the research, writing the manuscript, and data acquisition.

Md. Mahmudul Alam: Design of the study, writing the manuscript, final approval, accountability.

Conflict of interest

The authors have declared no conflict of interest.

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