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Jobanjit Singh

Department of Veterinary
Surgery and Radiology,
Khalsa College of Veterinary and
Animal Sciences, Amritsar,
Punjab, India

Jasmeen Kaur

Department of Veterinary
Surgery and Radiology,
Khalsa College of Veterinary and
Animal Sciences, Amritsar,
Punjab, India

Surgical management of atresia coli in a Holstein Friesian cross bred calf

Jobanjit Singh and Jasmeen Kaur

Abstract

A 4 day old calf was presented to the Department of Veterinary Surgery and Radiology, with the history of no fecal output since birth and progressive depression. On clinical examination, the abdomen of the animal was found to be severely distended and the contours of distended large intestinal loops were detected on palpation of right paralumbar fossa. Lateral abdominal radiograph of the abdomen revealed gaseous distension of the large intestine. Based on history and clinical examination findings diagnosis of atresia coli was made and surgical correction was done by performing end to side anastomosis of the blind end of the proximal colon with the descending colon using no. 2-0 polygalactin 910 under local analgesia using lignocaine 2%. An uneventful recovery was seen and it is concluded that the success of the treatment depends upon the early diagnosis of the condition and immediate surgical correction.

Keywords: Atresia coli, congenital defect, digestive tract, anastomosis

Introduction

Atresia coli is a fatal congenital abnormality in calves and is most frequently located in the mid spiral loop of the ascending colon (Syed and Shanks, 1992) [6]. This condition is characterised by incomplete development of digestive tract, due to lack of development of colon (Young *et al.*, 1992) [8]. Atresia ani and atresia ani et recti can occur simultaneously with atresia coli (Constable *et al.*, 1989) [2]. In a retrospective study, Holstein-Friesian calves were identified significantly more often with atresia coli than would have been expected from the hospital population (Fubini and Ducharme, 2004) [4]. Atresia coli should be suspected in calves with abdominal distension and the absence of feces since birth. The present paper describes a case of atresia coli with properly developed rectum and anal opening in a new born Holstein Friesian cross bred calf and its successful surgical management.

Case history

A 4 day old Holstein Friesian cross bred calf was presented to the Department of Veterinary Surgery and radiology, Khalsa College of Veterinary and Animal Sciences, Amritsar with the history of no fecal output since birth, distended abdomen and progressive depression.

Clinical examination and Diagnosis

The abdomen of the animal was severely distended and simultaneous percussion and auscultation of the right paralumbar fossa revealed ping sounds, whereas fluid splashing was appreciable on succussion. The contours of distended large intestinal loops were detected on palpation of right paralumbar fossa. Lateral abdominal radiograph of the abdomen revealed gaseous distension of the large intestine along with termination of large intestine within the mid-abdomen (Figure-1). Based on history and clinical examination findings diagnosis of atresia coli was made and surgical correction was planned.

Treatment and discussion

The right flank was prepared for aseptic surgery and animal was placed on left lateral recumbency. Analgesia was achieved by linear infiltration in the right mid paralumbar fossa using lignocaine 2%. After incising the abdominal wall, the distended blind end of the proximal colon was identified, exteriorised and dissected free from the mesenteric attachments (Figure-2). The meconium was evacuated by performing the enterotomy of the dissected proximal blind end of the colon.

Corresponding Author:

Jobanjit Singh

Department of Veterinary
Surgery and Radiology,
Khalsa College of Veterinary and
Animal Sciences, Amritsar,
Punjab, India

The descending colon was identified by passing a flexible catheter into the rectum (Figure-3). End to side anastomosis of the proximal colon to the descending colon was done by double layered i.e. schmieden's oversewn by crushing suture pattern using no. 2-0 polygalactin 910 (Figure-4). The intestines were replaced back after thorough lavage using Normal Saline. Post-operatively Amoxicillin and Sulbactam @ 20mg/kg, Meloxicam @0.3 mg/kg and DNS were administered daily for 5 days. An uneventful recovery of the animal was seen later.

The typical history and clinical signs of the disease are failure to pass meconium, progressive depression and abdominal distension (Ducharme *et al.*, 1988) [3]. In the present case radiography proved to be of great value as it revealed the gas distended large intestine terminating in the mid abdomen despite going towards the anal opening. The age at the time of presentation has never been associated with the survival rate even in the presence of peritonitis (Ducharme *et al.*, 1988) [3]. During surgery, the descending colon is best identified by passing a flexible catheter into the rectum and then isolated with umbilical tape loops placed through the mesocolon (Constable *et al.*, 1989) [2].

Immediate surgical intervention is warranted because of the risk of ischemia, necrosis, peritonitis and perforation due to continuous distension of intestines (Constable *et al.*, 1989) [2]. Abdominal distension observed in the present case is consistent with the findings of Tulleners, 1981 [7] and Kilic and Sarierler, 2004 [4]. Ping sounds heard during simultaneous auscultation and percussion were in accordance with the findings of Martens *et al.*, 1995 [5]. Site of intestinal atresia and the surgical technique used chiefly determines the long term survival rate (Martens *et al.*, 1995) [5]. Brenner and Orgad, 2003 [1] reported that pregnancy diagnosis by palpating the amniotic sac during the period of organogenesis between 36 to 42 days of gestation may lead to intestinal atresia in cattle.



Fig 1: Distended large intestine



Fig 2: Blind sac of proximal colon



Fig 3: Identification of descending colon



Fig 4: End to side anastomosis

Conclusion

It is concluded that the success of treating atresia coli depends upon the early diagnosis, in which history and radiography plays an important role and the immediate surgical correction by performing end to side anastomosis of the blind proximal colon with the descending colon.

References

1. Brenner J, Orgad U. Epidemiological investigation of an outbreak of intestinal atresia in two Israel herds. *Journal of Veterinary Medical Science*. 2003; 65(1):141-3.
2. Constable PD, Shanks RD, Huhn J, Morin DE. Atresia coli in calves: 26 cases. *Journal of American Veterinary Medical Association*. 1977; 195(1):118-23.
3. Ducharme NG, Arighi M, Horney FD, Barker IK, Livesey MA, Hurtig MH *et al.* Colonic atresia in cattle: A prospective study of 43 cases. *Canadian Veterinary Journal*. 1988; 29(10):818-823.
4. Fubini S, Ducharme N. *Farm Animal Surgery*, W.B. Saunders Company, U.K. 2004, 473
5. Kilic N, Sarierler M. Congenital intestinal atresia in calves; 61 cases (1999-2003). *Revue de Medecine Veterinaire*. 2004; 155(7):381-384.
6. Martens A, Gasthuys F, Steenhaut M, De Moor A. Surgical aspects of intestinal atresia in 58 calves. *Veterinary Record*. 1995; 136(6):141-4.
7. Syed M, Shanks RD. Incidence of atresia coli and relationships among the affected calved born in 1 herd of Holstein cattle. *Journal of Dairy Science*. 1992; 75(5):1357-64.
8. Tulleners EP. Surgical correction of volvulus of the root of mesentry in calves. *Journal of American Veterinary*

Medical Association. 1981; 179(10):998-9.

9. Young R, Linford R and Olander H. Atresia coli in the foal: A review of 6 cases. Equine Veterinary Journal. 1992; 24(1):60-62.