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Successful surgical management of atresia ani and atresia ani with rectovaginal fistula in ruminants

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Abstract

7 cases comprised of one Mehsana calf and two HF cross calves with atresia ani along with rectovaginal fistula while remaining 4 had atresia ani in kids. The cases of atresia ani were observed within 1-3 days of age while cases of atresia ani with rectovaginal fistula presented 1-2 months age. Animals with atresia ani having straining for defecation with mild distention of abdomen and bulging on anal site with absence of anal opening; In calves with atresia ani with rectovaginal fistula had straining for defecation and passing of faeces from vagina. All the cases were treated successfully with surgical management. All animals responded well and recovered without any complications.

Keywords: Atresia ani, rectovaginal fistula, ruminants

Introduction

Congenital defects are functional anomalies that present at birth. Rectal, anal failure defects and rectovaginal fistula are the predominately congenital gastro-intestinal malformation in large and small ruminants (Chaudhary *et al.*, 2010) [3]. The most common congenital malformations are atresia coli, atresia ani and rectovaginal fistula (Veena *et al.*, 2016) [8]. Atresia ani is congenital, hereditary and an autosomal recessive gene anomalies occurred at embryonic stage. Rectovaginal fistula is an inherited lethal abnormality in which an abnormal passage between rectum and vagina and faeces are voided through the latter due to imperforate anus (Oehme and Prier, 1974) [7]. This paper presents a successful surgical managements of atresia ani and atresian ani with recovaginal fistula in seven ruminants.

History and Clinical Examinations

This study presents 7 cases of atresia ani alone and atresia ani with rectovaginal fistula in cattle claves, buffalo claves and kids presented to Veterinary Clinical Complex, Veterinary College, Anand. Out of 7 cases 3 cases comprised one Mehsana calf and two HF cross calves had atresia ani along with rectovaginal fistula while remaining 4 cases had atresia ani in kids (Table 1). The cases of atresia ani were presented within 1-3 days of age while cases of atresia ani with rectovaginal fistula presented 1-2 months age. The HF cross calves belonging from same herd and had history of service of dam with same cattle bull. Animals with atresia ani presented with straining for defecation with mild distention of abdomen and bulging on anal site with absence of anal opening (Fig. 1). The calves with atresia ani with rectovaginal fistula had history of straining for defecation and passing of faeces from vagina (Fig. 2). Clinical examination revealed absence of anal opening in all animals and passing of faces from fistula in vagina and in other cases per vaginal palpation of fistula communication rectal mucosa was palpated. On the basis of history and clinical examinations the case were diagnosed as a congenital atresia ani and atresia ani along with rectovaginal fistula and surgical correction was planned.

Table 1: Congenital defects in animals

Sr.	Species	Breed	Age	Sex	Congenital defects
1	Bovine	Mehsana	One month	Female	Atresia ani and Rectovaginal fistula
2	Bovine	HF Cross	Two months	Female	Atresia ani and Rectovaginal fistula
3	Bovine	HF Cross	Two months	Female	Atresia ani and Rectovaginal fistula
4	Caprine	ND	2 days	Female	Atresia ani
5	Caprine	ND	3 day	Female	Atresia ani
6	Caprine	ND	1 day	Female	Atresia ani
7	Caprine	ND	1 day	Male	Atresia ani

Treatment and Discussion

The lambs with atresia ani were secured in lateral recumbancy and correction of atresia ani (Fig. 3) was done under local infiltration anaesthesia using 2% Lignocaine Hydrochloride. The round shape incision was made over the rectal bulge. After blunt dissection the blind end of rectum was identified and sutured with the skin using Vicryl No. 1. Immediately after correction in all animals passing of faeces was seen (Fig. 4). The calves with atresia ani with rectovaginal fistula were secured in lateral recumbancy and first correction of atresia ani was done (Fig. 5). The vagina was packed with cotton to prevent further passage of faeces. The correction was done by same surgical procedure described in atresia ani cases. The collected faeces was evacuated to avoid further accumulation in vagina. Through vulver opening the fistula was identified and mucosa of rectum was freshened and sutured with Vicryl No. 1 and the potency was established (Fig. 6). The vagina was washed with normal saline to remove remaining faeces. Post-operative all animals were given Inj. Ceftriaxone@ 100-300 mg and Inj. Meloxicam@ 0.5 mg/kg for five days along with topical antiseptic dressing till healing. The animal handler was also advised to give laxative for few days till healing.

In the present study two HF Cross calves belong to same herd and had history of service of dam with same bull indicating hereditary causes. The majority of genetic defects in cattle are inherited as recessives. Approximately 1 in 10 animals carries a lethal or sub-lethal allele. Disorders of the external genitalia are due to the impact of these deformities on future generations (Bademkiran *et al.*, 2009) [2]. Atresia ani is a congenital defect reported in all domestic animals (Varol *et al.*, 2016) [7] a possible genetic defect with unknown pattern in cattle and common intestinal defects in sheep due to an autosomal recessive gene (Naddaf *et al.*, 2014) [5]. Duration of the atresia ani was 1 to 3 days might be due to animals were not able to pass the faeces lead to straining, bulging at anal region while in rectovaginal fistula duration was 1 to 2 months might be due to animals were pass the faeces through vagina so symptoms were absent and owners were not aware with condition and might neglect the defect. Most of the authors reported one to five months duration. In the present study atresia ani with rectovaginal fistula reported only in cattle and buffalo calves while in male lambs only atresia ani was reported and treated surgically. Similar cases reported by Kamalakar *et al.* (2015) [4], Shakoor *et al.* (2012) [6] and Veena *et al.* (2016) [8] in cattle and buffalo calves while Chaudhary *et al.* (2010) [3].



Fig 1: Atresia ani



Fig 2: Passing of faeces from RVF



Fig 3: Correction of Atresia ani

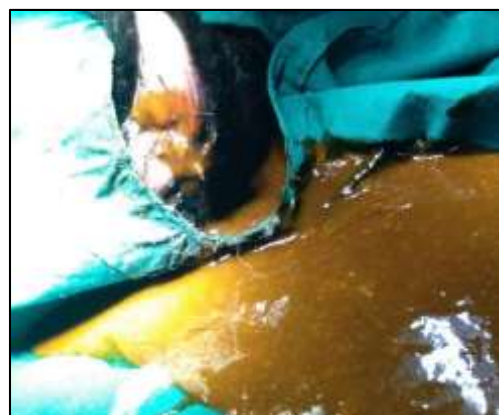


Fig 4: Passing of faeces immediate after correction



Fig 5: Correction of Atresia ani



Fig 6: Correction of RVF

and Naddaf *et al.* (2014) ^[5] reported the same cases in calves and male lamb and treated surgically. There are various surgical techniques used to treat the atresia ani. Hossain *et al.* (2014) reported complications like anal stricture which need surgical revision in 46 calves treated surgically with cruciate skin incision and found circular anal skin removal technique was minimize stricture formation. Surgical treatment of atresia ani through circular anal skin removal has a good prognosis for survival (Azizi *et al.*, 2010) ^[1]. In the present study all the cases with atresia ani treated with circular skin incision to minimize the post-operative complications. All the animals with atresia ani and atresia ani with rectovaginal fistula recovered well without any complications.

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