

Surgical Repair of Congenital Rectovaginal Fistula and Atresia Ani in a Lamb

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Abstract: A five days old lamb was presented with a history of voiding faeces through the vulva, with tenesmus since birth. Clinical examination revealed presence of faeces in the vaginal region, abdominal distension, discomfort on abdominal palpation and absence of anal opening. The case was tentatively diagnosed as a rectovaginal fistula with atresia ani and subjected to surgical intervention. A linear skin incision made from the base of anal opening to the dorsal wall of the vulva. The Rectal wall was identified and separated from the communication. The Rectum was sutured to the skin at the anal opening and anus was reconstructed. Postoperatively animal was treated with Fluids and antibiotics. Animal recovered uneventfully.

Keywords: Congenital, Rectovaginal fistula, atresia ani, lamb

1. Introduction

Congenital malformations of the rectum and anus are quite common in all species of animals (O'Connor, 1998). Rectovaginal fistula with atresia ani as congenital malformation have been reported in calves, lambs and kids (Singh *et al.*, 1993). Congenital rectovaginal fistula is characterized by the communication between the dorsal wall of the vagina and the ventral portion of the rectum, so that the vulva functions as common opening to the urogenital and gastrointestinal tracts (Farhoodi *et al.*, 1987). Usually the abnormality is associated with atresia ani, in which the rectum ends as a blind pouch immediately cranial to the imperforated anus (Bademkiran *et al.*, 2009). Diagnosis is based on history, clinical signs, and physical examination. Radiographic examination with contrast medium infused through the vagina or fistula may be useful for determining the position of the fistula and terminal rectum (Wykes *et al.*, 2003). Surgical correction involves isolated the fistula, transected, and the rectum and vulvar defects are closed separately, followed by reconstruction of the anus and the goal is to preserve a vulva and anus.

2. Case History and Observations

A five days old lamb was presented with a history voiding of feces through the vulva (Fig-2) with tenesmus since birth. Clinical examination revealed presence of feces in the vaginal canal, abdominal distension, discomfort on abdominal palpation and absence of anal opening. The case was tentatively diagnosed as a rectovaginal fistula with atresia ani.

3. Treatment and Discussions

The perianal site was prepared aseptically from the base of the tail to the vulval opening. lamb was premedicated with Inj meloxicam at @ 0.3mg/kg body weight subcutaneously,

Inj Ceftriaxone (Intacef[®] 500 mg, Intas pharmaceutical, Allahabad) at @ 20mg/kg body weight intravenously and sedated with Inj diazepam (calmpose[®] 10mg, Sun pharmaceutical ind. Ltd, Mumbai) at @ 1mg/kg body weight intravenously. General anaesthesia was done by using Inj Ketamine @ 2 mg/kg (Ketamin[®] 50, Themis Medicare Limited, Uttarakhand) body weight intramuscularly.. Animal was positioned on sternal recumbency with elevated hind quarter. A linear skin incision was made from the base of anal opening point to the dorsal wall of the vulva. After gentle dissection, the communication between the Rectum and the vagina was found. The Rectal wall was identified and separated from the communication. The Rectum was sutured to the skin at the anal opening and anus was reconstructed. (Fig-3) The dorsal wall of the Vagina reconstructed (Fig.3) using Polyglactin 910 No-1 (Truglyde[®], Suture India Pvt. Ltd). The subcutaneous tissue was closed and skin at the perianal region was sutured using polyamide (Trulon[®], Suture India Pvt. Ltd) using interrupted pattern. Postoperatively, the lamb was treated with Ceftriaxone @ 20mg/kg (Intacef[®] 500 mg, Intas pharmaceutical, Allahabad) body weight BID for seven days and Melonex (Melonex[®], Intas Pharmaceuticals Ltd, Ahmedabad) @ 0.3mg/kg body weight for three days along with alternative day wound dressing. Sutures were removed on 10th postoperative day and animal recovered uneventfully.

The rectum was formed when a mesenchyme partition (urorectal septum) divides the cloaca into dorsal and ventral chambers. The dorsal chamber, which was continuous with the hindgut, becomes the rectum and most of the anal canal. The ventral chamber (the urogenital sinus) was continuous with the allantois. The urorectal septum grow caudally and divides the cloacal membrane into an anal membrane dorsally and a urogenital membrane ventrally. The membranes subsequently disintegrate in normal development. The cranial part of the anal canal (most of the canal) was formed with the rectum; this part of the anal

canal is lined by a mucosal epithelium derived from endoderm. The caudal part of the anal canal (caudal to the adult anocutaneous line) was lined by stratified squamous epithelium. It forms tissue surrounding the anal membrane grows caudally creating a depression called the proctodeum; when the anal membrane degenerates, the proctodeum becomes incorporated into the anal canal (McGeady *et al.*, 2006). Atresia ani was fatal affection to the male unless surgical correction is carried out to provide anal opening, in female rectum frequently break through to vagina forming a rectovaginal fistula and thus permit defecation via the vulva (Norrish and Rennie, 1968). Affected animals may survive for up to 10 days and can be identified by their depression, anorexia, colic, marked gradual abdominal distension and lack of feces (Radostitis *et al.*, 2000). Since the clinical signs and physical examination findings were sufficient to establish the diagnosis, radiographic studies were not necessary to confirm the disease. However, radiographs are considered important to determine the position of the fistula and to differentiate the 4 types of congenital atresia ani. The duration of fecal retention and degree of colonic dilation may be used as a prognostic criterion (Amand *et al.*, 1974).

Rectovaginal defects may cause pneumovagina results from stretched, ruptured, deformed and horizontal vulva may introduce fecal materials, urine and air into the vagina, leading to vaginitis, cervicitis, endometritis and failure of conception and repeat breeding [Farhoodi *et al.*, 1987]. Surgery should be performed as soon as possible to avoid deterioration of the physical condition, irreversible megacolon, and possible ascending urinary tract infection (Prassinis *et al.*, 2003). Surgical correction in rectovaginal fistula and atresia ani may result in a favorable outcome if the procedures are done early.

4. Conclusion

It could be concluded that like many other congenital abnormalities in lamb, atresia ani with rectovaginal fistula can be treated by anal reconstructive surgery to save the life of animal.

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Figure 1: lamb showing atresia ani



Figure 2: Photograph showing atresia ani with rectal contents dropping from Vulva



Figure 3: After reconstruction of anus

Author Profile



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