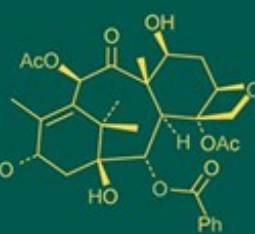
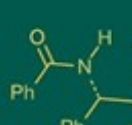
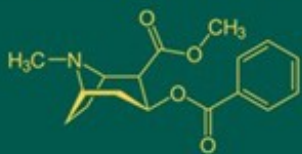


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Anus vaginalis in a two month old lam: A case report

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ABSTRACT

A two-month-old lamb was presented to the Department of Veterinary Surgery and Radiology, College of Veterinary Science, Proddatur, with a history of passing a small quantity of faeces through the vaginal opening since birth. Clinical examination revealed abdominal distension, absence of an anal opening and a bulging perineal region, along with faeces in the vaginal opening. Per vaginal examination revealed a fistulous tract connecting dorsal vaginal wall and rectum. Contrast radiography was done to evaluate the fistulous tract. Based on history, clinical and radiographical findings, the case was diagnosed as a rectovaginal fistula with Type II atresia ani. Surgical correction was attempted under general anaesthesia. The animal recovered uneventfully without any serious complications.

Keywords: Anus vaginalis, Atresia ani, Rectovaginal fistula, Contrast radiography, Surgical management, Lamb

Introduction

Anus vaginalis is the term used to indicate the condition where vagina acts as anal opening. It is due to abnormal passage between rectum and vaginal walls with imperforate anus and is characterized by the passage of both urine and faeces through the vulva (Oehme and prier, 1974) [1]. In other words, simply it is the term used to indicate atresia ani with rectovaginal fistula. Rectovaginal fistula was classified as congenital or acquired. The condition is generally considered congenital as it is associated with congenital abnormality of atresia ani. The condition is mostly due to lack of recognizing atresia ani at the early life which lead to the formation of rectovaginal fistula due to constant fecal pressure at the distal rectal wall (Norrish and Rennie, 1968 and Kamalakar *et al.*, 2014). Absence of reports of rectovaginal fistula in day old animals and reports of rectovaginal fistula only after 10 days including all species strongly suggest that the condition is acquired rather than congenital. Apart from absence of anal opening, abdominal distention, tenesmus and faeces in the vaginal opening are the common findings (Monsang *et al.*, 2020) [2]. Surgical intervention is the only possible solution to treat the condition. The present article describes in detail about the successful management of anus vaginalis in a two month old lamb.

Case history and treatment

A two-month-old lamb was presented to Department of Veterinary Surgery and Radiology, College of Veterinary Science, Proddatur with the history of tenesmus and voiding of small quantity of faeces through the vaginal opening (Fig. 1). Clinical examination revealed faeces at the vaginal opening, slight abdominal distension and absence of an anal opening. Per vaginal examination revealed a fistulous tract connecting the dorsal vaginal wall and rectum. Manual compression of abdomen did not express any significant swelling or protrusion at the anal region which suggested it as atresia ani Type II. Contrast radiography was obtained in right lateral recumbency by infusing 20 ml of barium sulphate through vulval opening which confirmed the position and size of fistulous tract as well as type of atresia ani (Fig. 2).

For surgical repair of both the conditions, animal was sedated with Inj. Xylazine hydrochloride @ 0.1 mg/kg body weight and general anesthesia was induced as well as maintained with combination of Inj. Ketamine hydrochloride @ 5 mg/kg body weight and Inj. Diazepam @ 0.5 mg/kg body weight. The animal was placed in the lateral recumbency and a cruciate skin incision was made just over the bulged portion of the anus. Following blunt dissection, the subcutaneous tissues were dissected and the rectal cul-de sac was identified and exteriorized to the level of the skin (Fig. 3). A stab incision was given over the rectal loop and through the incision the muconium was evacuated. Communication between the floor of rectum and vaginal roof was identified by per rectal digital examination (Fig. 4) and fistula opening was sutured pervaginally with absorbable suture material (catgut size No.2) in simple continuous suture pattern (Fig. 5). For anal reconstruction, the rectal mucosa was everted and sutured to the perineal skin with black braided silk (no.2) in simple interrupted pattern holding full thickness layer of rectal wall with the full thickness of perineal skin to ensure good contact between them. A sterile 10 mL syringe barrel which was cut at non winged end and with two

holes at the centre of each wing for suturing was inserted into rectum after lubrication with liquid paraffin in order to maintain patency. The wings of barrel were secured to the perineal skin with nylon suture material by simple interrupted sutures (Fig. 6). Post-operatively, a course of antibiotic (Inj. Ceftriaxone & Tazobactam @ 10 mg/kg bw, IM) and non-steroidal anti-inflammatory drug (Inj. Meloxicam @ 0.2 mg/kg bw, IM) were given for 5 and 3 days respectively. Owners were advised to apply neem oil around the wound area in order to prevent maggot infestation. Tube used to maintain patency of rectum was lost on 12th post-operative day, but the patency of rectum was established and the animal had normal defecation (Fig. 7).

Discussion

Congenital malformations of rectum and anus are common accounting for 4.3% in different species (Leipold *et al.*, 1971) and atresia ani is the common abnormality. Incidence of atresia ani is high in sheep (Bademkiran *et al.*, 2009) [3] and may be a result of genetic defect (associated with autosomal recessive gene) or in utero exposure of foetus to teratogens such as plant toxins, viruses and teratogenic drugs (Loynachan *et al.*, 2006) [4]. Atresia ani is classified as four types. Type I- anal stenosis, Type II- rectum ends as blind pouch immediately cranial to imperforate anus (persistent anal membrane), Type- III – similar to Type II, but the rectal pouch is located farther cranial, Type IV- terminal portion of rectum and anus are normal but there is rectal atresia inside the pelvic canal (rectal agenesis). Type I atresia ani is an acute condition associated with severe straining and prominent bulging at the anal region and hence easily identified by the

owners and get rectified. Type II results in chronic condition that cannot be easily identified and may result in rectovaginal fistula. Chronic nature of the condition further rule out the absence of other fatal congenital abnormalities. Type III and Type IV have poor prognosis and are commonly associated with other congenital abnormalities. Diagnosis is straight forward and role of plain/contrast radiography in diagnosing the condition is little. However, contrast radiography may help in diagnosing the complications such as megacolon. Fistula will not be generally more than 2 inches away from anal region and hence the present method of correction of rectovaginal fistula by suturing the fistulous opening pervaginally followed by fixing a plastic tube in the rectum without any resection is simple, less traumatic, without any recurrence and as such it is more advantageous. The other surgical methods such as (i) isolation, resection of fistula horizontally, suturing of rectal and vulval defects separately followed by reconstruction of anus (Prasad *et al.*, 2016) [5]; (ii) resection of rectum, removal of affected portion and suturing of terminal part of rectum to anus (Rahal *et al.*, 2007) [6] are highly traumatic and associated with severe pain. Generally, prognosis is good after correcting anus vaginalis. However early diagnosis and correction of anus vaginalis is important for the success of surgery and to avoid complications such as deterioration of the physical condition, irreversible megacolon and possible ascending urogenital tract infection (Prassinis *et al.*, 2003) [7]. The possible post-operative complications include fecal incontinence, rectal stenosis, obstipation and tenesmus, constipation, rectal prolapse and wound dehiscence (Rahal *et al.*, 2007) [6]. The present case reported no complications even after one month post-operatively.

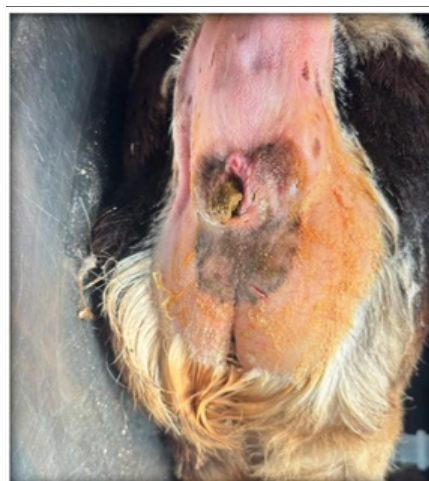


Figure 1. Absence of anal opening (Atresia ani) with faeces in the vagina



Figure 2. Contrast radiography of anus vaginalis



Figure 3. Identification of Rectal cul-de-sac after incising rectal mucosa



Figure 4. Per rectal evaluation of rectovaginal fistula

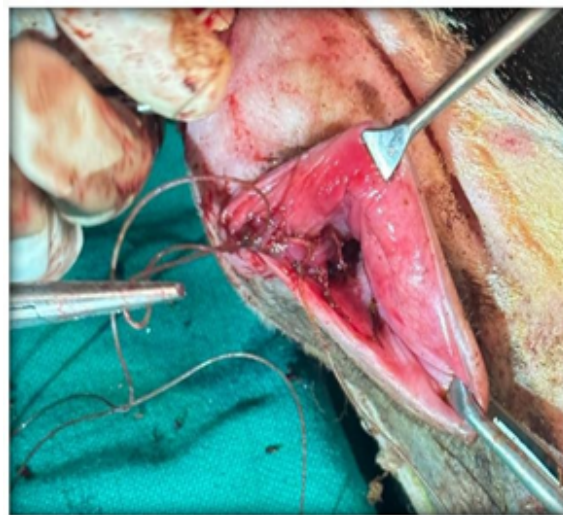


Figure 5. Suturing of fistula opening per vaginally



Figure 6. Anoplasty with plastic syringe

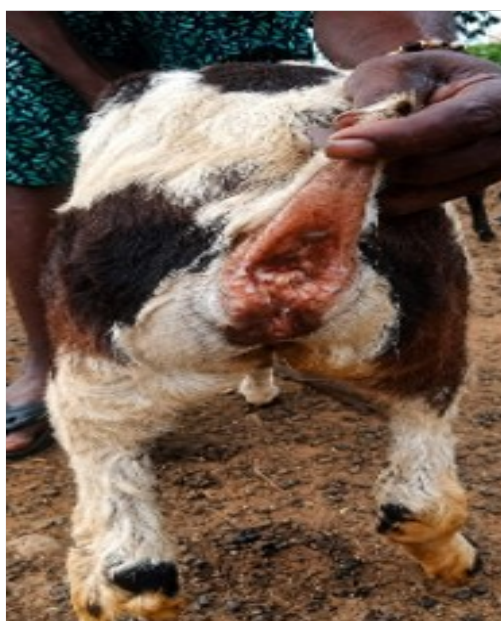


Figure 7. Successful postoperative recovery

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