Pakistan Veterinary Journal

ISSN: 0253-8318 (PRINT), 2074-7764 (ONLINE)
Accessible at: www.pvj.com.pk

CASE REPORT

Surgical Repair of Congenital Recto-Vaginal Fistula with Atresia Ani in a Cow Calf

Abdul Shakoor, Sayyed Aun Muhammad, Muhammad Younus and Muhammd Kashif

College of Veterinary and Animal Sciences, Jhang, Sub Campus of University of Veterinary and Animal Sciences, Lahore, Pakistan
Corresponding author: aunmuhammad@uvas.edu.pk

ARTICLE HISTORY

Received: September 08, 2011
Revised: October 18, 2011
Accepted: October 28, 2011

Key words:
Atresia ani
Congenital anomalies
Cow calf
Recto-vaginal fistula
Surgical correction

ABSTRACT

A three days old cross bred cow calf affected with recto-vaginal fistula along with atresia ani and fusion of vulvular lips was presented to the Veterinary Teaching Hospital, College of Veterinary and Animal Sciences, Jhang. Emergency surgery was done after the infiltration of local anesthesia at the approximated site of anus. Blind rectal pouch was incised to suture it with the skin by using black breaded silk #1. A 3 inches long incision was made at the site of vulvular fusion to restore the normal genitalia. After exposing the defective site, 4 inches long slit causing direct communication between rectum and vagina (Recto-vaginal fistula) was obliterated with chromic cat gut # 1. Having washed with normal saline, Neomycine Sulphate ointment was smeared twice a day at the newly constructed anal opening for two weeks. A course of antibiotic consisting of penicillin and streptomycin was administered intramuscularly for five days. The sutures were removed on 14th post-operative day. Animal was recovered uneventfully without recurrence of any defect up to follow up of 2 months.

To Cite This Article: Shakoor A, SA Muhammad, M Younus and M Kashif, 2012. Surgical repair of congenital recto-vaginal fistula with atresia ani in a cow calf. Pak Vet J, 32(2): 298-300.

INTRODUCTION

Nature keeps on showing occasionally a host of embryological and congenital defects in the developmental process of both human beings and animals due to mysterious factors which may be genetic or environmental in nature or their blend. One of the most common extraneous factors includes teratogens present in plants ingested by cattle and viral diseases in pregnancy (Bademkiran *et al*., 2009). The vast majority of defects in cow calves are inherited (Loynachan *et al*., 2006). The deformities of external genital organs are of special premonition because of their repercussion on the future generations. These defects are observed in different parts of the body, especially last part of the digestive tract like atresia ani. This congenital anomaly has been reported in all domestic animals. It is one of the quite frequently found defects of intestine among sheep because of recessive gene (Suthar *et al*., 2010). Recto-vaginal fistula is another congenital problem causing direct communication between rectum and vagina in female calves responsible for urofecal mixing and vulva if it be normal, serves as a common orifice for both digestive and urogenital tracts. This deformity is accompanied by atresia ani and blind recta pouch ends just anterior to the approximated site of anus. Partial or complete fusion of vulvular lips causes pooling of excretions leading to the development of abnormal bulging of variable size and spoils the normal contour of the area. The co-existence of these three conditions in calves is rare and has not been reported so for in this literature as for as our knowledge is concerned.

History and Clinical Examination: A three days old female cow calf was presented to the out door Clinics, College of Veterinary and Animal Sciences, Jhang, with the main complaint of inability to pass feces and urine ever since her birth. Clinical examination indicated progressive abdominal distension, straining, tenderness, depression and weakness. There was no anal opening and fusion of both vulvular lips. But fused vulvuar lips had a very small opening at the lowest end letting the meconium mixed urine droplets coming out.

An 18 inch long and nine inches wide, subcutaneous bulging was around the anal and vulvuar region containing urine mixed feces (Fig. 1) that was confirmed by aspiratory puncture. On the basis of meticulous clinical observations and surgical exploration, the case was confirmed as congenital recto-vaginal fistula cum atresia ani along with fusion of vulvular lips. Keeping in view

this dilemma, it was deemed wise and logical to treat it through emergency surgery.

Treatment: Having infiltrated lignocaine HCl with adrenaline (Xyline 5 ml, Orient Labs Pvt, Lahore, Pakistan) at surgical site, it was scrubbed with pyodine solution for surgical intervention. After development of anesthesia, a 3 inch long incision was made at the site of vulvular fusion. The fused vulvular lips were separated by blunt dissection which yielded the discharge of 2 liters fecal material containing urine. There was a direct communication between rectum and vagina in the form of a 4 inch long slit locating 3 inches anteriorly at median plane.

For surgical correction of atresia ani, 1 inch wide circular patch of skin and subcutaneous tissue was removed from the approximated site of anus. Careful blunt dissection in a forward direction was made to identify the blind rectal loop. After identification, the rectal pouch was grasped caudally with a pair of tissue forceps and was incised for complete evacuation of rectal passage. The rectal mucosa was sutured by using black braided silk # 1 (Glysilk- Huaiyin Factory, Shanghai, China) with the skin using simple interrupted suture pattern covering the whole circumference. Similarly the communicating fistula between rectum and vagina was also closed with Chromic Catgut # 1 (Chromic; Shanghai Med & Health Production IMP and EXP Corp, Shanghai, China) by using simple interrupted suture pattern (Fig. 2). A course of antibiotic consisting of penicillin and streptomycin 1g (Penbiotic; M/S Nawan Pharmaceutical, Lahore, Pakistan) was administered i/m for a period of five days. The newly constructed anus was recommended to be washed twice daily with Normal Saline followed by Neomycine Sulphate Ointment (Neomycin Oint®, M/S Amros Pharmaceuticals, Karachi, Pakistan) application. The silk sutures were removed on 14th post-operative day. The animal recovered uneventfully without recurrence up to 2 months of follow up.

DISCUSSION

Whenever, some unknown occult factors come into action during the fetal development, so the corresponding organs or tissues are found defective making that individual freakish in nature. Some deformities are amenable to surgical intervention and some are incorrigible in nature. Agenesis of vagina, urethra, anus and rectum are found rarely and are ascribed to flaws lying in chromatin material (Jeong *et al*., 2003; Ghanem *et al*., 2004). Atresia ani is a commonly found deformity owing to genetic disorders (Ghanem *et al*., 2005). Azizi *et al*. (2010) described a good survival rate in response to atresia ani rectification by removing a circular skin piece and unifying the excised rectal loop with skin. The failure of formation of dorsal part of cloacal plate may lead to development of atresia ani which is ever and anon found with recto-vaginal fistula. Recto-vaginal fistula and atresia ani are treated frequently by two surgical techniques. In one method, the defects of rectum and vulvular lips are closed individually after isolating and transecting the fistula (Mahlar and Williams, 2005). Anal opening is reconstructed later on. In the second method, trisection of rectum is done just anterior to fistula, the defective rectal part is excised followed by the suturing of last recta part with the skin margins of opening carved already at possible anal site.

Fig. 1: A female cross-bred cow calf affected with congenital recto-vaginal fistula cum atresia ani and vulvular fusion.

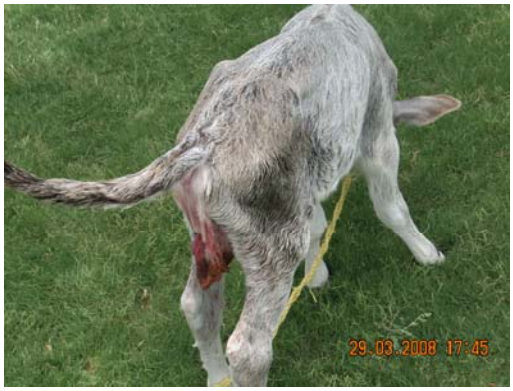

Fig. 2: Female cow calf after surgical rectification of the anomalies.

In the present case, all three anomalies were rectified individually as reported by Rahal *et al.* (2007). Agenesis of three organs (anus, vagina and urethra) in ruminants has already been reported (Aslan *et al*., 2009). Similarly, a report of different anomalies (Recto-vaginal fistula, imperforate anus and vulvular non–formation) in a buffalo calf has been reported (Aslan *et al*., 2009). Naturally posterior part of cloaca acts like a usual place for development of gastro-intestinal and urinary tract. At the merging site of allointoise and cloaca (hind gut) partition between urinary system and rectum forms, it develops posteriorly, while making separation of hind gut into two chambers *i.e.* upper and lower (Bademkiran *et al*., 2009) . The upper part grows into anal fold and lower part develops into urogenital folds leading to the development of vulva in response to opening of urogenital sinus. Anterior portion of pelvic urogenital sinus forms the urethra in females and the rest of the sinus develops into vestibule. Any flaw or defect or aberration in the process of differentiation at the embryological level (cloacal folds into anal and urogenital folds) may lead to congenital defect in the formation of various organs like anus, vagina and urethra etc (Bademkiran *et al*., 2009). In this case, a complex of defects affecting rectum, vulva and anus may be ascribed to the embryological defect in the urogenital folds leading to this type of anomalies.

In conclusion, surgical intervention is the only possible solution to cope with congenital anomalies in animals to satisfy the sentiments of owners and to make them economically profitable for the keepers.

REFERENCES

Aslan L, A Karasu M Genccelep, B Bakir and I Alkan, 2009. Evaluation of cases with congenital anorectal anomalies in ruminants. YYU Vet Fak Der, 20: 31-36.

Azizi S, R Mohammadi and I Mohammadpour, 2010. Surgical repair and management of congenital intestinal atresia in 68 calves. Vet Surg, 39: 115-120.

Bademkiran S, H Icen and D Kurt, 2009. Congenital recto vaginal fistula with atresia ani in a heifer: A Case Report. YYU Vet Fak Der, 20: 61-64.

Ghanem M, C Yoshida, N Isobe, T Nakao, H Yamashiro, H Kubota, Y Miyake and K Nakada, 2004. Atresia ani with diphalus and separate scrota in a calf: a case report. Theriogenology, 61: 1205-1213.

Ghanem M, C Yoshida, M Nishaibon, T Nakao and H Yamashiro, 2005. A case of freemartin with atresia recti and ani in Japanese Black calf. Anim Reprod Sci, 85:193-199.

Jeong WI, CS Lee, SY Ryu, BH Williams, YH Jee, CY Jung, SJ Park, DH Jeong, SK Lee and YS Jeong, 2003. Renal and ureteral fusion in a calf with atresia ani. J Vet Med Sci, 65: 413-414.

Loynachan AT, CB Jackson and LR Harrison, 2006. Complete diphallia imperforate ani (type 2 atresia ani) and an accessory scrotum in a 5-day-old calf. J Vet Diagn Invest, 18: 408-412.

Mahlar S and G Williams, 2005. Preservation of fistula for reconstruction of the anal canal and the anus in atresia ani and rectovastubular fistula in 2 dogs. Vet Surg, 34: 148-152.

Rahal SC, CS Vicente, AC Mortari, MJ Mamprim and EH Caporalli, 2007. Recto-vaginal fistula with anal atresia in 5 dogs. Can Vet J, 48: 827-830.

Suthar DN, SR Chaudhary, PB Patel, JN Mistry, JB Patel and SS Nerurkar, 2010. Surgical management of atresia ani in a cow calf. Vet World, 3: 380-381.