



Colostomy for the Relief of a Rectovaginal Fistula and Atresia Recti in a Sow: A Case Report

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INTRODUCTION

A congenital rectovaginal fistula results from the failure of the urorectal septum to separate the cloaca into urethrovesical and rectal segments during embryonic development such that a fistula persists between the epithelial surfaces of the dorsal wall of the vagina and the ventral wall of the rectum (Steiner, 2004). In such cases, the vulva functions as a common opening to the urogenital and gastrointestinal tracts. (Aronson, 2003, Wykes and Olson, 2003). Wide fistulas allow the passage of flatulence and faeces into and through the vagina to exit the vulva. The consistency of the faeces voided through the vulva depends on the portion of the lower gastrointestinal tract fistulated to the vagina. Generally however, the genital area of such animals may get sore and infected. Affected animals suffer vulvular irritation, tenesmus, cystitis, and megacolon, among others. (Mahler and Williams 2005, Aronson, 2003)

In some cases RVF coexist with atresia ani of varying degrees (Types I-IV), Wykes and Olson 2003, Burrows and Sherding, 1992). Affected animal may live and thrive as long as the faeces remain semi fluid and is voided via the vagina. The diagnosis of the condition is often made when the affected neonate have been weaned. (Aronson, 2003, Wykes and Olson, 2003).

The prevalence of ano-rectal abnormalities in animals has not been conclusively determined, Aronson (2003), reported a higher prevalence in dogs and cats, Remi-Adewunmi (2007), reported a high prevalence in calves while Roberts (1986) reported a higher prevalence in swine than other species.

In humans, most recto-vaginal fistulas arise from obstetrical trauma at parturition especially in immature females and as a result of some primitive cultural practices in some communities, inflammatory bowel disease (IBD), radiation, proctitis, and pelvic infection (Bradley et al., 2010).

Congenital RVFs in animals have been treated surgically using a variety of techniques including the use of plastic adhesives provided there is an anal opening (Mahler and Williams, 2005, Vianna and Tobias, 2005, Aronson, 2003, Wykes and Olson, 2003, Prassinis et al., 2003)

The reported post operative complications of RVFs in animals are fecal incontinence, constipation, obstipation, tenesmus, perianal oedema, urinary incontinence, anal stenosis and wound dehiscence. (Mahler and Williams 2005, Vianna and Tobias, 2005, Aronson, 2003, Wykes and Olson, 2003).

Case report

A nine month old sow presented at the

surgery unit of the College of Veterinary Medicine, Michael Okpara University of Agriculture, Umudike, Abia state with a history of defecating and urinating through the same orifice was diagnosed as a case of RVF and AA/AR and imperforate ani (IA) (Fig1)



Figure 1. The sow on examination table showing the presence of faeces in the vulva and absence of anal orifice.

The position of the anus in a normal animal

The sow was sedated with Xylazine (2-(2-6-dimethylphenylamino) - 4-H-5, 5-dihydro-1, 3-thiazide. Kepro, Holland) at the dose of 1.1miligram/kilogram body weight (mg/kg bwt) intramuscularly (i/m) and anaesthetized with Ketamine (dl- 2-(o-chlorophenyl) - 2-methylamino)-cyclohexanone hydrochloride, (Rotex Medica, Germany) at 15mg/kg bwt i /m. Following aseptic preparation of the ventral abdomen for surgery and with the sow on dorsal recumbency, the fistula was approached through a caudal midline celiotomy. The descending colon was located and traced caudally until the fistulous connection to the vagina was located. The fistula was within

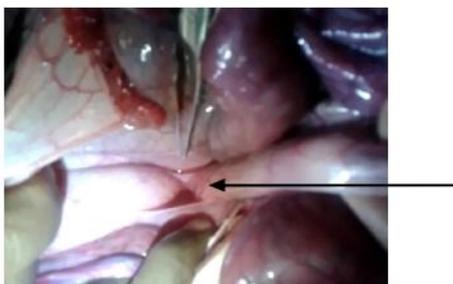


Figure 2 : Arrow Points to the connection between the colon and the vagina.

the pelvic cavity, and was between the rectal region of the gastrointestinal tract and the vagina, caudal, to the cervix (Fig 2). The rectal and anal canals were atretic and there was no anal orifice (imperforate anus). The colon was double clamped about 2.0 centimeters (cm) cranial to the fistula and severed between the clamps. The colonic stumps were closed with Parker-Kerr suture pattern using size 0 chromic catgut, (Fig 3).



Figure 3: The proximal and distal stumps of the colon closed with Parker Kerr suture pattern.

The Proximal and distal stumps of the colon.

Efforts to pull the cranial colonic stump through the pelvic canal to the normal position of the anus for a pull-through procedure were unsuccessful resulting in a decision to manage the condition by flank colostomy.

A skin incision about 2.0 cm long was made to the left of the original laparotomy incision. The underlying abdominal muscles were bluntly dissected to access the abdomen. The proximal end of the colon was passed through the slit in the peritoneum and muscle layers and exteriorized through the skin incision, (Fig 4). About 1.0 cm of the terminal end of the colon and the Parker Kerr stitch on it was amputated and the rim of the colon was sutured to the rim of the abdominal skin incision using simple interrupted stitches of size 1/0 monofilament nylon.



Figure 4: The colon being pulled through the abdominal muscles.

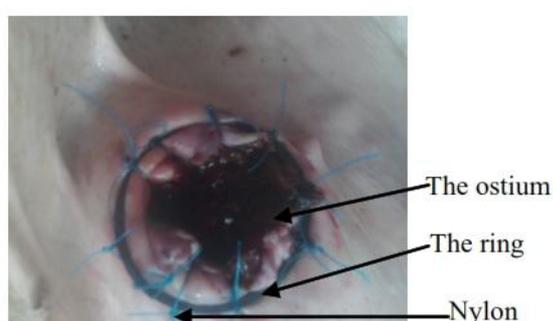


Figure 5: Metal ring attached to keep the ostium patent.

The laparotomy incision was closed in a routine manner and the sow was treated with a single dose (10.0mg/bwt) of oxytetracycline long acting (Kepro, Holland) i/m and piroxicam (Laborate, India) at dose of 0.3mg/kg for three days. The recovery of the animal from anaesthesia and surgery was uneventful and skin stitches were removed 14days post surgery.

Post operative complications

Two months post surgery; the sow became bloated, anorexic, very tender around the colostomy site and unable to pass faeces due to a severe constriction of the colostomy orifice. A metal ring was therefore fixed at the colostomy orifice to keep it patent (figure 5). The sow recovered uneventfully thereafter, mated and farrowed piglets.

DISCUSSION

This was a case of congenital high RVF and type III congenital AA cum IA in a sow where the fistula originated proximal to the anorectal sphincter complex deep inside the pelvic canal which is in agreement with previous reports (Aronson 2003, Wykes and Olson, 2003).

In such cases, a diagnosis of RVF and atresia of the caudal digestive tract may be made based on case history, clinical signs and physical findings. A retrograde vaginogram or sonographic examination may be required for the determination of the exact position of the fistula, the termination of the caudal digestive tract and which of types I-IV AA/AR is present in such cases (Vianna and Tobias, 2005, Aronson, 2003, Wykes and Olson, 2003). There were no signs of vulvular irritations, cystitis, urinary and vaginal infections.

Farmers are always advised to fatten and cull such animal to prevent the perpetration of the hereditary genetic problem. Where treatment is desired especially in valuable animals, a case of RVF cum AR with IA may be treated surgically by creating a neo-rectum and performing a colonic pull-through procedure (Vianna and Tobias, 2005). In this case a left flank colostomy was performed about 3cm from the pelvic brim such that the mammary gland areas will not be soiled with fecal materials which would not be healthy for the piglets. The abdominal muscles were bluntly separated in an oblique manner in a caudo-cranial direction into the abdominal cavity such that the abdominal muscles simulated a sphincter.

The post surgical complication of stricture of the colostomy orifice agrees with what was reported by Remi-Adewunmi et al. (2007).

In this case the sow was served solely to demonstrate to students that such cases in priced animals can be salvaged or managed

by performing a colostomy.

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