

A Case of Grade I Rectal Prolapse in a Calf with Congenital Tail Defect

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Abstract: Rectal prolapse is a condition involving displacement of the rectum, commonly due to excessive straining, diet or inherited traits. A 6-month-old calf with congenital tail defect weighing 68 kg was presented to the University Veterinary Hospital, Universiti Putra Malaysia with a grade I incomplete rectal prolapse. This condition was corrected with surgical repair using Buhner's needle and umbilical tape following epidural nerve blocking using 2% Lidocaine. The calf was also treated with the administered 650ml of 0.9% NaCl intravenous fluid and 100ml of calcium borogluconate intravenously. Topical wound healing powder Negasunt containing (Sulphanilamide 5.0% w/w, coumaphos 3.0% w/w, propoxur 2.0% w/w) and povidone iodine was applied topically to prevent maggots and secondary infection. Norodine (trimethoprim sulfadiazine) antibiotic was administered at dose rate of 0.15mg/kg SID for two days. Prompt surgical intervention and treatment resolved the condition in the calf.

Keywords- Rectal Prolapse, Congenital tail defect, Surgical repair

I. Introduction

A prolapse is defined as the falling down or slipping of a body part from its usual position [1]. Rectal prolapse depicts the displacement of the rectum, which is the distal part of the colon located just above the anus. Rectal prolapse can be classified as complete and an incomplete prolapse. A complete prolapse involves the protrusion of all the rectal layers from the anus whereas an incomplete prolapse only involves protrusion of the rectal mucosa [2]. Rectal prolapse may also be described by the extent of involvement of various tissues as grades I through IV. Grade III and grade IV rectal prolapse usually require surgical resection of the affected portion of the rectum [3]. Rectal prolapse is a common occurrence in cattle and small ruminants [4]. It has been reported to occur sporadically in 4 – 6 month old beef calves [5]. Prolapse of the rectal mucosa may be associated with tenesmus, dysuria, neuropathy, chronic coughing or genetics [3, 6]. In sheep rectal prolapse is seen most commonly as a complication of tail amputation. Typically, the tail is amputated so short that the innervation of the anal sphincter and perianal muscles is compromised, resulting in chronically progressive rectal protrusion and ultimately prolapse [4]. The present clinical case reports the management of a grade I rectal prolapse in a 6 month old calf with a recurrent diarrhoea and congenital tail defect.

II. Case Report

Patient Signalment and History

A six month-old male Friesian-Sahiwal cross breed calf weighing 68 kg with a body condition score of 2.5 out of 5 was observed with an incomplete grade I rectal prolapse. The calf was managed semi-intensively fed with pellets and grass and had a complete vaccination and deworming history. Since birth, the calf has been observed to have a congenital tail defect. The calf was reported to have a history of recurrent diarrhoea and was treated with intramuscular injection of Oxytetracycline (200mg/ml) at the dosage of 3mg/ 0.5kg body weight. Theracalcium (calcium gluconate) was also administered intravenously at the dose rate of 250ml/500kg body weight, 10 ml of fercobsang (ferrous citrate, cobalt digluconate, vitamin B12, nicotinamide) preparation and Vitavet (vitamin supplement) were equally administered to the calf.

Clinical Findings

Physical examination revealed normal vital parameters and close examination of the anal region revealed an incomplete grade I rectal prolapse, abnormally sunken anus, a 5 x 3 cm wound on the ventral surface of the tail base and a region of proud flesh of about 6 x 3 cm on the left side of the anus (fig. 1).

Treatment plan

The therapeutic plan for this case was to perform caudal epidural anesthesia to reduce straining, facilitate repositioning of the prolapse and permit surgical manipulation. This would be followed by reduction and retention of the prolapse with purse string suture as reported by Rubin, 2013 [2].

Pre-operative Medications

A Flunixin meglumine analgesic 1.1mg/kg via intravenous route was administered. Then Norodine antibiotic 0.15 mg/kg (Trimethoprim sulfadiazine) was administered intravenously as a premedication.

Pre-Surgical Preparation

Prior to the surgery, caudal epidural nerve block was performed to stop nerve sensation to the rectum. Manipulation of the tail was done by moving it up and down to determine exact location for the epidural block. Epidural anaesthesia was done by administering 2 ml of Lidocaine 2% at the sacro-coccygeal region between 5th sacral vertebrae and 1st coccygeal vertebrae.

Surgical procedure

Ice was first applied at the rectal mucosa to reduce the severity of swelling and to constrict the blood vessels to ease manual reduction fig. 4 (a). A half cut 10 ml syringe holder was insert into the rectum to help with the reduction and to maintain the rectal opening during suturing fig. 4 (b) and (c). A scalpel blade size 15 was used to make a nick on the skin. The Buhner's needle was passed in and out longitudinally through the skin around the rectal opening from the left site to the right site fig. 4(d). Umbilical tape was inserted into the needle and pulled out together with the needle in the opposite direction of the needle insertion fig. 4(e). These steps are repeated to create the desired suture pattern. A knot was made and tightened to the extent of the diameter of the syringe holder fig. 4 (f).

Post-Operative Treatment

The calf was administered 650ml of 0.9% Nacl intravenous fluid and 100ml of calcium borogluconate intravenously. Negasunt powder (Sulphanilamide 5.0% w/w, coumaphos 3.0% w/w, propoxur 2.0% w/w) and povidone iodine were applied topically to prevent maggots and secondary infection. Norodine (trimethoprim sulfadiazine) antibiotic was administered at dose rate of 0.15mg/kg SID for the next two days.

Progression

The Client was instructed to monitor the sutures and observe for straining during defecation as well as to keep the pen clean. The calf was revisited after 10 days post treatment, and the suture was removed. The suture site was dry and clean and no further prolapse was observed. The prognosis of this case was good in terms of recovery but poor for breeding performance because of the possibility for recurrence of the prolapse and the congenital tail defect.

III. Discussion

Rectal prolapse have been reported to commonly occur in young animals in association with diarrhoea [2, 7]. This assertions is in agreement with the findings in the present case report as the calf was reported to had diarrhoea on and off for two months. The straining that which may be associated with the recurrent diarrhoea reported in the calf contributed to the prolapse. A genetically inherited trait is another factor that predisposes calves to develop rectal prolapse [3, 6]. In this case, there was history that the calf had a congenital anomaly where it was born with a short tail. This factor may contribute to rectal prolapse as without normal length tail the calf would not be able to repel flies away from the anus and this condition may lead to constant irritation of the anus region.

To prevent rectal prolapse from reoccurring is by closely monitoring the sutures site which the client was advised to do in the present case report. The site should always be kept clean and dry to promote healthy skin tissue, which will be able to maintain the suture for desired time. Besides, maintaining the suture site, alteration of the function (reducing the pressure) at the rectum region should be done in order to maintain the restored rectum. Complications that can be observed in a rectal prolapse repair are rectal stricture, abscess and peritonitis [4]. In the present case report, the calf temperature was within normal range and so also other vital parameters indicating that there was no occurrence of peritonitis.

IV. Figures



Fig. 1: Incomplete prolapse of the rectal mucosa



Fig. 2: Clipped site for epidural anesthesia



Fig.3: Administration of 2ml Lidocaine 2% using 21G needle.



Fig.4a: Application of ice on the rectal mucosa.



Fig. 4b: Insertion of a half cut 10ml syringe holder.



Fig. 4c: Rectal opening was maintained.



Fig.4d: Scalpel blade was used to make a nick on the skin



Fig. 4e: Insertion of umbilical tape



Fig. 4f: A knot was made and tightened to the diameter of syringe

V. Conclusion

Rectal prolapse is a condition with many treatment options. The choice of treatment depends on the severity of the condition whereas the prognosis depends on the success of the repair procedure itself and close post-operative management. In situations whereby economic loss is in question, considerations should be made if the best option is to treat the condition or to cull the animal.

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