

**Surgical Management of Recurrent Rectal Prolapse in a Domestic Kitten
(*Felis catus*) – Case report**

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Abstract

A case of recurrent rectal prolapse in a domestic 3 months old kitten was presented to the Referral Veterinary Polyclinic, Indian Veterinary Research Institute, Izatnagar, with the complaint of protruded tubular pink mass through the anus along with mild signs of mucosal necrosis since last 5 days. Reduction and retention of the prolapsed mass by conventional purse-string suture technique was attempted earlier on 2 occasions by the attending veterinarian with no good results. Hence, the case was referred for second opinion and treatment. Surgical reduction was done under ketamine-xylazine anesthesia and the animal recovered uneventfully in 7 days.

Keywords: kitten; Rectal prolapse; Recurrent

Introduction

Rectal prolapse is a double layer evagination of the rectum through the anal canal which may be either partial or incomplete in nature. In kittens, it is most commonly associated with severe endoparasitism, enteritis, and associated tenesmus (Fossum, 2002). In older queens, rectal prolapse occur secondary to dystocia, while it has been reported secondary to urethral obstruction in tom cats. The initial treatment is usually directed at the conservative management, and surgical intervention is required in recurring or long-standing cases (Johnston, 1985). In clinical cases where chances of recurrence are very high, prophylactic colopexy as the modality of choice should be considered (Sherding, 1996). This paper describes a rare case of recurrent rectal prolapse and its successful surgical management in a kitten.

Case history and Clinical Examination

A three months old domestic female cat of non-descript breed, weighing about 1.5 kg was presented to the Referral Veterinary Polyclinic, Indian Veterinary Research Institute, Izatnagar, with the complaint of tubular pink mass along with mild signs of mucosal necrosis protruding through the anus since last 5 days (Fig. 1). Reduction and retention of the prolapsed mass by conventional purse-string suture technique was attempted earlier on 2 occasions by the attending veterinarian with no successful results. Therefore, it was referred for the second opinion and subsequent treatment.

On record, urination was normal with abnormal episodes of inappetence and absence of defecation for the past days. Clinical examination revealed subnormal temperature (36.8 0C), tachycardia (190 beats per minute) and tachypnea (36 breaths per minute). The abdomen was markedly distended with an arched back appearance. Ultrasonography revealed negative for any signs of intussusception.

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Based on the history, clinical findings and ultrasonographic findings, the case was confirmed as rectal prolapse. Hence, laparotomy was done and surgical correction was resorted immediately.

Surgical Procedure

Supportive therapy consisting of 200 ml DNS solution IV (5% DNS – Baxter India Pvt. Ltd., Gurgoan) followed by broad spectrum antibiotics ceftriaxone and tazobactam combination at 25 mg/kg IV (Intacef Tazo) along with vitamin B complex injection 0.5 ml IM (Tribivet), was carried out for patient stabilization before the surgery.

Premedication with diazepam at 0.5 mg/kg body wt. IV (Calmpose) was done followed 10 minutes later by pentazocine at 0.5 mg/kg IV (Fortwin). The animal was induced with ketamine at 7.5 mg / kg body wt. IV (Ketmin) and maintained with keta-diazepam (1:1) throughout the procedure. In dorso-ventral recumbency, a ventral midline incision of 2 inches length was given in the caudal abdominal area to expose abdominal organs

(Fig. 2). The abdominal cavity was explored and gentle traction was placed on the descending colon in cranial direction for reduction of the prolapsed rectum. Colopexy was performed by placing 4 simple interrupted sutures in the antimesenteric border into the seromuscular wall of the descending colon and transverse abdominal muscle with Vicryl No. 1 (Fig. 3 and 4). The abdominal muscular layer was closed layer by layer using Catgut No.1 (Fig. 5) followed by skin suture application in horizontal mattress pattern using braided silk (Fig. 6).

Postoperative ceftriaxone plus tazobactam was advised for 5 days while 5% DNS (250 ml twice daily) and analgesic was administered for 3 days. Strict dietary rest was advised for another 4 days followed by feeding of milk and gruel from 4th day onwards and then gradually changing the diet to normal food. Additionally, oral administration of laxative (Cremaffin plus) was started after 4 days post-operatively and continued for 10 days to allow easy passage of faeces and prevent any straining during defecation. Regular dressing of the skin wound was done using 5 % povidone iodine solution twice daily for 7 days.



Fig. 1. Prolapsed rectal mass showing signs of mild necrosis.



Fig 2. Intra-operative pulling of colon for reduction of prolapsed mass.



Fig 3. Suturing of antemesenteric border of colon to internal abdominal wall.



Fig. 4. Segment of colon seen adhered to abdominal wall after completion of suturing.



Fig. 5. Closure of different layer of abdominal muscles using catgut no.1



Fig. 6. Closure of skin incision by application of horizontal mattress sutures.

Results and Discussion

The animal recovered uneventfully from anaesthesia and showed progressive signs of improvement under the umbrella of therapy given in the post operative period. The skin sutures were removed 10th day post operatively and the animal made an uneventful recovery.

Prolapse of rectum has been found to arise as a consequence of disorders such as diarrhoea, tenesmus, lower urinary tract and prostatic diseases that produce persistent straining and incidence is reported to be higher in young, unthrifty parasitized animals with severe diarrhoea (Sherding, 1996). The incomplete rectal prolapse arises due to the backward gliding of sub-mucosa and mucous membrane on the muscular coat to form a circular protrusion while a completely prolapsed mass is generally larger and more cylindrical in shape because it involves eversion of other visceral organs (O' Connor, 1985).

Management of rectal prolapse depends on the degree of tissue viability and number of recurrences. Clinical cases presented at the first occurrence along with signs of viable rectal mucosa can be effectively treated by manual reduction followed by application of purse string suture. If the rectal prolapse is viable but not digitally reducible or there is a history of multiple recurrences, then colopexy can be considered as better option than any other surgical technique (Cynthia, 2005).

In prolonged as well as recurrent cases, repeated eversion of protruded mass causes loss of tone of anal sphincter, loosening of rectal mucosal membrane and loosening of attachment of peri-rectal tissue which can further aggravate the condition (Venugopalan, 1999). Various treatment modalities have been proposed which include both surgical as well as non-surgical methods. In cases of prolapsed mass of longer duration with clinically visible signs of mucosal necrosis, amputation of prolapsed rectal stump can be performed (Fossum, 2002). Since there were only mild signs of mucosal necrosis and hence amputation was not carried out in the present clinical case.

The surgical outcome of present clinical case go in favour with the findings of Johnston (1985) who reported colopexy to be rewarding in preventing the recurrence of prolapse of the rectum. In contrast to this, Niebauer (1993) stated that prolapse of longer duration with poorly viable rectal mucosa

should be managed either by mucosal resection or complete resection and anastomosis. Colopexy does not affect intestinal function adversely (Popovitch *et al.* 1994). Moreover, there is formation of permanent fibrous adhesion after colopexy which maintains reduction of the prolapsed mass (Mattieson and Marett, 1985).

Conclusion

It can thus be concluded that recurrence of rectal prolapse can be easily prevented by colopexy. However, the underlying cause of tenesmus should be diagnosed and resolved as soon as possible. This technique is very simple and can be considered as viable option in companion animals where purse string technique proves to be ineffective and the risks of suture line dehiscence or rectal stricture after amputation are high. Therefore, colopexy should be considered with priority in the management of recurrent rectal prolapse.

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