

## Diagnosis and Surgical Management of Tubulovillous Rectal Adenoma in a Dog

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### Abstract

A dog was presented with small hard mass in rectum with tendency to bleed during defecation. On clinical examination, tumor was noticed on dorsal wall of rectum in anorecto area and was surgically excised. Histopathological evaluation of tumor mass revealed as tubulovillous adenoma with high grade dysplasia. With proper post-operative care, pet recovered uneventfully.

**Keywords:** Pomeranian dog; rectum; tubulovillous adenoma

### Introduction

Canines were often affected with tumors, all over the body but it is markedly rare to find tumors of epithelial origin in intestinal tract, which represent less than one percent (Head *et al.*, 2002). Among the neoplasms of intestinal origin, rectum is most common site of occurrence (Schaffer and Schiefer, 1968). Most of gastrointestinal tumors were found to be of adenocarcinomas in male dogs, whereas adenomas were reported more in female dogs (Patnaik *et al.*, 1977). Adenomas of large bowel were classified as tubular, villous and tubulovillous types based on histopathological characteristics (Head *et al.*, 2002; Wise, 2011). Benign tumors will not pose any problem but any malignant does and one near the anal sphincter or rectum leads to intermittent bleeding and inconvenience to animal. Sometimes this may cause anemia also if quantity of blood loss is high. Tenesmus, emaciation, hematochezia, anorexia, constipation was commonly noted in dogs with tumors of rectum which may also predispose to prolapse of rectum (Head *et al.*, 2002; Patnaik *et al.*, 1980; Paoloni *et al.*, 2002). In present report, we put forth successful surgical management of tubulovillous adenoma of rectum in a dog.

### History and Observations

An eight year-old male Pomeranian dog with signs of tenesmus, hematochezia and bleeding from rectum was presented. Clinically, the dog was dull,

appeared dehydrated and straining during defecation. Thorough examination by digital rectal palpation revealed a soft tissue mass of about 2-3 cm diameter in dorsal wall of rectum, attached to mucosal layer near to anus. Mass had tendency to bleed on defecation. It was decided to surgically excise the tumor mass.

### Treatment and Discussion

The dog was withheld food and water for 12 and 6 hours respectively prior to surgery. It was pre-medicated with Ceftriaxone at 25 mg/kg b.wt. and pre-emptive analgesic Meloxicam (Melonex<sup>®</sup>) at 0.2 mg/kg b.wt. intramuscularly. As pre-anesthetic, Atropine sulphate at 0.04 mg/kg b.wt. and Xylazine hydrochloride at 1 mg/kg b.wt. were administered intramuscularly. Surgical site was prepared aseptically and general anesthesia was induced and maintained with Thiopentone sodium at 12.5 mg/kg b.wt. intravenously. The growth in rectum was surgically excised by electrocautery. The mucosal layer at base was opposed with No. 0 chromic catgut. Post-operatively, pet was administered with Tab. Cephalexin at 25 mg/kg BID and Tab. Meloxicam<sup>a</sup> at 0.2 mg/kg b.wt. OD for five days along with daily dressing. Advised owner to offer fibrous diet.

The mass was collected in 10 percent NBF and sent for histopathology. The 5-micron thick sections were stained with H and E stain. The study showed tissue fragments lined by stratified squamous epithelium with colonic mucosa containing glands arranged in tubulovillous pattern exhibiting areas of high-grade dysplasia confirming it as tubulovillous adenoma with high grade dysplasia.

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## Rectal adenoma

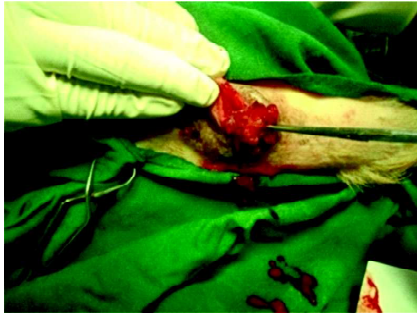


Fig. 1: Tumor mass in rectum



Fig. 2: Excised tumor mass

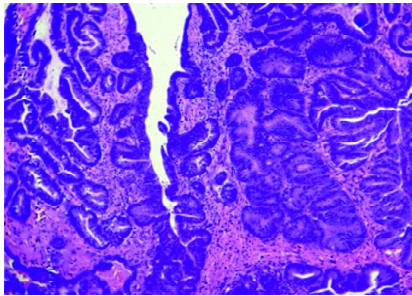


Fig. 3: Tubulovillous adenoma with high grade dysplasia

Neoplasms of intestinal tract were most commonly noted in middle aged or old age dogs of above age nine years (Schaffer and Schiefer, 1968). In the present case, pet was of eight years old. In concurrence with clinical signs observed in this case report, signs like tenesmus, hematochezia and rectal bleeding were also reported by Paoloni *et al.* (2002) in their retrospective study of intestinal adenocarcinomas in dogs. There is no breed predisposition for intestinal adenocarcinomas in dogs, even though preponderance in Collie and German Shepherd breeds has been reported (Paoloni *et al.*, 2002). In our case study, it was Pomeranian breed in which adenoma was encountered. Surgical interventions like transanal excision followed by submucosal injection of saline or epinephrine (Wise, 2011). Caudal retraction and exteriorization of mass following rectal prolapse, mass resection to level of muscularis and suturing of ends were on record (Danova *et al.*, 2006). Apart from that, Paoloni *et al.* (2002) reported the use of chemotherapy by using a combination of

doxorubicin and carboplatin; multiple chemotherapeutic protocols followed by surgical excision to treat a case of intestinal adenocarcinoma. In this study, we resected the mass surgically using electrocautery and surgical wound was opposed.

### Conclusion

A successful surgical management of tubulovillous adenoma with high grade dysplasia on rectum wall in a eight year old male Pomeranian dog was reported.

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Received on:31.07.2020  
Accepted on:17.10.2020