

## Case report

# SURGICAL MANAGEMENT OF PERIANAL ADENOMA: A CASE REPORT OF TWO DOGS

### Abstract

An eight and five years old intact male dogs presented with the history of straining, licking and scooting in the perianal regions since five and two months, respectively. Clinical examination revealed a circumscribed mass of 2 cm diameter in the Rottweiler dog and 7 cm in the non-descript dog in the perianal region. Haemato-biochemical parameters showed relative neutrophilia and anemia whereas survey radiography of lateral thorax revealed no metastasis. Surgical resection of the mass was done under general anesthesia. Histopathology revealed the growths as perianal adenoma. There was no recurrence on three months follow up in both the dogs.

**Keywords:** Dog, Perianal adenoma, surgical management.

### Introduction

Perianal region of the dog is frequently affected with three types of glandular tumours; apocrine gland tumour of anal sacs, circumanal, perianal or hepatoid tumours and anal gland tumours. The incidence of perianal adenoma is about 9-18% of all skin tumours and accounts for the third most prevalent tumour in male dogs (Bray, 2011). The most commonly affected breeds are Cocker Spaniel, Pekingese, Beagle, Siberian husky, Bulldog and Samoyed (Turek and Withrow, 2007). There can be reduction in re-occurrence up to 95% of adenomas and hyperplasia cases after castration at the time of surgical excision (Brodzki *et al.*, 2021). The present study reports the occurrence of perianal adenoma in intact Rottweiler and non-descript dog and their surgical management.

### Case Presentation

An eight years old non-descript intact male dog weighing 8 kg and a five years old intact Rottweiler dog, weighing 22 kg were brought with history of growth in the perianal region since last five months and two months, respectively. The dogs had the history of constant straining, licking and scooting in the perineal region. The mass was reported to have increased gradually from initial peanut size. On clinical examination, the dogs were apparently healthy with slightly pale mucous membrane but all vital parameters were within normal range. Hematology revealed relative neutrophilia and anemia. Palpation of perianal growth in Rottweiler revealed sessile, circumscribed mass of 2 cm in diameter (Fig. 1A) whereas in non-descript it was firm in consistency, encapsulated and round mass of 7 cm in diameter (Fig. 1B) on the lateral side of the anus. Chest radiography was negative for metastasis.

The dogs were anaesthetized with balanced anaesthetic protocol with pre-medication using atropine @ 0.04 mg/kg IM and Midazolam @ 0.2 mg/kg IM. Induction was done with

propofol @ 4mg/kg IV. Maintenance of anaesthesia was done with Isoflurane @ 1-2 % with oxygen with flow rate of 50 ml/kg. The surgical site was prepared aseptically and an anal plug was placed to prevent intra-operative contamination. A circular incision was made around the tumor mass and fascia was separated in both the cases. Tumorous masses were resected and blood vessels were ligated using polyglactin 910no.1-0 (Fig.2). Skin was opposed with interrupted horizontal mattress followed by pre-scrotal castration.

Resected masses were sent for histopathology which revealed it to be a hepatoid gland tumor or perianal adenoma. There was presence of neoplastic cells arranged in cords pattern which resembled like hepatocytes. The neoplastic cells were polyhedral and centrally located ovoid, vesicular nucleus, centrally placed nucleoli and eosinophilic cytoplasm. Single cell layer thickened basaloid cells were present in the periphery. These cords are separated by interlobular stroma, with abundant inflammatory cells and congested blood vessels (Fig. 3 A-C)

Post operative medication with broad spectrum antibiotic and analgesic was done for five days in both the cases. Sutures were removed on 14<sup>th</sup> day. Both the dogs showed uneventful recovery. A three month post operative follow up revealed no recurrence in both the cases.

### **Discussion**

Hepatoid gland tumor/ Perianal adenoma is slow-growing benign tumour that develops from sebaceous gland cells in the perianal region. Petherino *et al.* (2004) stated that testosterone stimulates the tumorous cells. Castration was done to prevent the recurrence in both the cases. The size of the mass may shrink after one or two months of castration due to low level of testosterone making its removal easy (Hayes and Wilson, 2008). The growth might appear as single, numerous masses, diffuse, relatively flat sheets of sebaceous tumour cells, or any combination of these (Shelley, 2002). Although benign lesions are rarely adherent to surrounding structures, they may ulcerate and become infected (Jakab *et al.*, 2009). Faecal incontinence may be seen postoperatively if tumour occupies more than half of circumference of anal sphincter (Goldschmidt and Shofer, 2004). No such complication was seen in both of the operated cases in the present study till three months of follow up. The tumours could be removed using cryotherapy if size is small (Liska and Withrow, 1978). Hepatoid adenoma and epithelioma can also be removed effectively using electro-chemotherapy with an overall success rate of 93.9% (Tozon *et al.*, 2010). Perianal adenomas have excellent prognosis if surgically removed, however, their malignant equivalent has a worse prognosis due to problems with local recurrence and possible metastasis (Morris and Dobson, 2001).

### **REFERENCES**

Bray, J. (2011). Tumours of the Perianal Region. Dobson, J.M., Lascelles, B.D.X., Eds.; BSAVA Manual of Canine and Feline Oncology: Birmingham, UK. pp. 223–228.

Brodzki, A., Łopuszyński, W., Millan, Y., Tatara, M.R., Brodzki, P., Kulpa, K. and Minakow, N. (2021). Androgen and estrogen receptor expression in different types of perianal gland tumors in male dogs. *Animals*. **11**: 875.

Hayes, H.M. and Wilson, G.P. (2008). Hormone-dependent neoplasms of the canine perianal gland. *Cancer Res*. **37**:2068–2071.

Jakab, C., Rusvai, M., Szabo, Z., Szabara, A. and Kulka, J. (2009). Expression of the claudin-4 molecule in benign and malignant canine hepatoid gland tumours. *Acta Vet Hung*. **57(4)**:463–475.

Kirpensteijn, V. and Jolle, M. (2006). Treatment of perianal and anal sac tumors. *Proceed. North Amer. Vet. Conf.* pp. 03-27.

Liska, W.D and Withrow, S.J. (1978). Cryosurgical treatment of perianal gland adenomas in the dog. *J Am Anim Hosp Assoc*. **14**:457–463.

Morris, J. and Dobson (2001). *Small Animal Oncology*. 1<sup>st</sup>Edn. UK: Blackwell Science. pp. 135–137.

Petterino, C., Martini, M and Castagnaro, M. (2004). Immunohistochemical detection of growth hormone (GH) in canine hepatoid gland tumors. *J. Vet. Med. Sci*. **66**: 569-72.

Pisani, G., Millanta, F., Lorenzi, D., Vannozzi, I and Poli, A. (2006). Androgen receptor expression in normal, hyperplastic and neoplastic hepatoid glands in the dog. *Res. Vet. Sci*. **81**: 231-36.

Goldschmidt, M.H. and Shofer, F.S. (2004). Skin tumors of the dog and cat. Oxford: Butterworth, Heinemann. **pp.** 1–103.

Shelley, B.A. (2002). Use of the carbon dioxide laser for perianal anal and rectal surgery. *Vet Clin. North Am. Small Anim. Pract.* **32**: 621-37.

Tozon, N., Kodre, V., Juntas, P., Sersa, G. and Cemazar, M. (2010). Electrochemotherapy is highly effective for the treatment of canine perianal hepatoid adenoma and epithelioma. *Acta Veterinaria*. **60(2-3)**: 285-302,

Turek, M.M and Withrow, S.J. (2007). Tumors of the gastrointestinal tract. H. Perianal tumors. In: *Small Animal Clinical Oncology*. 4<sup>th</sup>Edn. St. Louis, Mo: Saunders Elsevier. pp. 503-510.



Fig. 1: Photograph showing small (A) and large (B) round growth/mass in perianal region

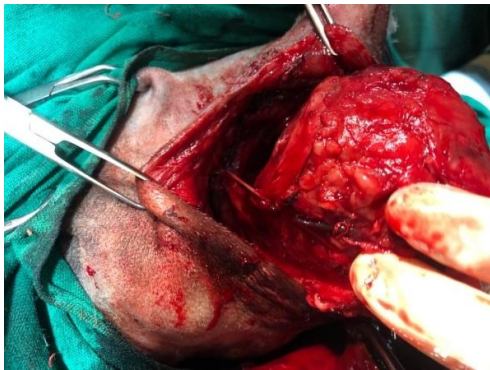
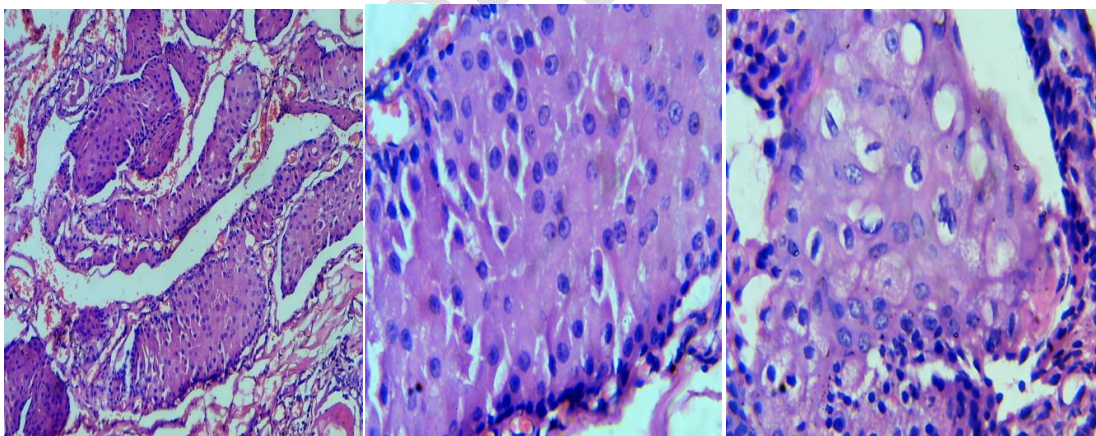


Fig. 2: Photograph showing surgical excision of round mass



A

B

C

Fig. 3: Photomicrograph showing presence of neoplastic cells arranged in cords pattern which resembled like hepatocytes. The neoplastic cells were polyhedral and centrally located ovoid, vesicular nucleus, centrally placed nucleoli and eosinophilic cytoplasm.