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Case Report

Perianal (Hepatoid) Gland Adenoma in Labrador Dog: Its Diagnosis and Surgical Management

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Abstract

A six year old male Labrador dog weighing 45 Kg was presented with a complaint of external growth in perianal region reported from past one year of presentation to Teaching Veterinary Clinical Complex, MVC, Mumbai. Clinically dog showed haematochezia, constipation and tenesmus. Fine needle aspiration cytology of the perianal growth as well as the impression smear taken from growth when stained with Leishman stain showed oval to polygonal cells with round nucleus and abundant pink cytoplasm and indicated perianal gland adenoma. The growth was removed by surgical extirpation under general anaesthesia using xylazine (0.5 mg/Kg b. wt) and ketamine (5mg/ Kg b. wt) and maintained by diazepam (0.5 mg/kg b. wt.). Surgical intervention was carried out by incising the base of tumor and dissecting surrounding structures after ligation of blood vessels. Internal muscle layer and fascia was sutured by chromic cat gut No.0 by simple continuous pattern and externally cross mattress pattern with nylon. Post-operative management was carried out with Ceftriaxone (@ 15.25 mg/kg b. wt.) and meloxicam (0.2mg/kg b. wt. intramuscularly). The weight of growth was 150 grams and had dimensions of 6.5 cm by 4 cm. Histopathological examination confirmed hepatoid gland adenoma with features of round to oval cells with round nucleus and abundant cytoplasm with cells arranged in sheets surrounded by fibrous connective tissue. The, present communication reports a case of Hepatoid gland adenoma in male Labrador dog and its surgical management.

Keywords: Cytology, Histopathology, Perianal/Hepatoid gland adenoma, Surgical extirpation

Introduction

Perianal adenomas are benign tumor starting in the epithelial tissue of gland. These tumours are common in intact male dogs. Perianal gland tumours in male dogs are the third most prevalent tumor among all neoplastic diseases and described commonly as “hepatoid glands" due to their morphologic resemblance with liver. However, in bitches perianal gland tumours are common in castrated female and indicates protective effects of female sexual hormone (Kessler, 2014). The growth and function of gland could be regulated by sex hormone as hepatoid gland contains receptors of estrogen, androgen and growth hormone (Kessler, 2014). Perianal adenomas are benign tumor starting in the epithelial tissue of gland. These tumours are common in intact male dogs. However, in bitches perianal gland tumours are common in castrated female and indicates protective effects of female sexual hormone (Kessler, 2014). The older dogs of breed such as English Bulldog, Beagle, German Shepherd, Siberian Huskies, Samoyeds, Pekingese, Cocker Spaniels and Fox terrier are most commonly affected (Baba and Toi, 2007; Villalobos, 2011 and Kessler, 2014).

In India, Amruth Kumar *et al.* (2017) evaluated 41 perianal growths in dogs with overall incidence of 8.95% of perianal tumours with breed wise highest incidence observed in German Shephard (21.95) followed by Spitz (19.50%), crossbred (12.19), Mongrel (9.76), Rottweiler and Labrador (7.32%), Doberman (4.87%) and lesser incidence was reported in Golden retriever, Grate Dane, Dalmatian, Boxer, Irish setter (2.44%). In the same study, age wise incidence of perianal tumours was 26.83 % in dog less than 5 years, 56.10 in 5 to 10 years dog and 17.7 in dogs above 10 years.

Sawale *et al*. (2017) reported two cases of hepatoid gland adenoma *i.e* one in Labrador cross and other in nondescript dog whereas Kaur *et al.* (2019) reported hepatoid gland adenoma in intact male Labrador. Present communication reports a case of perianal gland adenoma in six year old male Labrador dog, its diagnosis by cytology and histopathology and surgical extirpation.

Materials and Methods

A six year old male Labrador dog weighing 45 kg was presented with complaint of growth at perianal region since one year of presentation (Fig. 1). Clinical signs shown by dog included haematochezia, constipation, tenesmus, tail wagging, difficulty in sitting, constipation and straining at the time of defecation. Surgical management was decided under general anaesthesia induced with xylazine (0.5mg/Kg b. wt.) and ketamine (5mg/ Kg b. wt) followed by maintenance using diazepam (0.5 mg/kg b. wt.). The animal was fasted for 10 hours prior to the surgery. The skin around the perianal region was shaved and cleaned with antiseptic solution. Incision was made along the base of tumour (Fig. 2), separating the subcutaneous fat layer. Blunt end of scissor was used to dissect the surrounding tissue along with ligation of blood supplies. After removing the tumour mass, the incision was closed in two layers *viz.* internal muscle layer and fascia by chromic cat gut No. 0 followed by skin with nylon with cross mattress pattern. Postoperatively, the dog was given Meloxicam @ 0.2mg/kg b. wt (1.5 ml), Ceftriaxone (562.50mg) @ 15.25 mg/kg b. wt. intramuscularly. The excessive bleeding was controlled with the help of inj. ethympsylate (1ml, intramuscularly) and inj. B complex (1ml, intramuscularly), Bandaging was done on 3rd, 5th and 7th day post-operative to visualize the condition of operative site. The antibiotic cream containing procaine penicillin G, streptomycin sulphate and sulfamerazine was applied topically. The bandage was retained till wound showed uneventful recovery.

A piece of tissue in 10 % formalin was collected for histopathological study.

Results and Discussion

The diagnosis of perianal growth was done by cytology and histopathology. Grossly, the removed growth was round in shape. On cut section, growth was hard and grey white in colour (Fig. 3). The growth was weighing 150 grams with dimensions of 6.5 cm by 4 cm. Fine needle aspiration cytology (FNAC) of the perianal growth as well as the impression smear taken from growth when stained with Leishman stain showed large oval to polygonal cells with round nucleus and abundant granular blue cytoplasm and indicated perianal gland adenoma which was in accordance with the study reported by Yamusak, *et al*. (2016). Histopathological analysis of growth showed well circumscribed lobular architecture or sheet of cells separated by fibrous connective tissue. The cells in sheet were oval to round with round vesicular nucleus and abundant eosinophilic cytoplasm (Fig. 4 and 5). Tumour cells did not show any

features of anaplasia viz. mitotic figures and pleomorphism. The growth was confirmatively diagnosed by cytology and histopathology as Perianal (hepatoid) gland adenoma. The gross and microscopic lesion observed in present study on perianal gland adenoma were in accordance with observation reported by various authors (Goldschmidt, and Hendrick, 2002; Trangadiya *et al.* 2014; Sawale *et al.* 2017).

Fig. 1: Perianal growth

Fig. 2: Surgical excision of the growth

Fig. 3: Gross appearance of excised mass

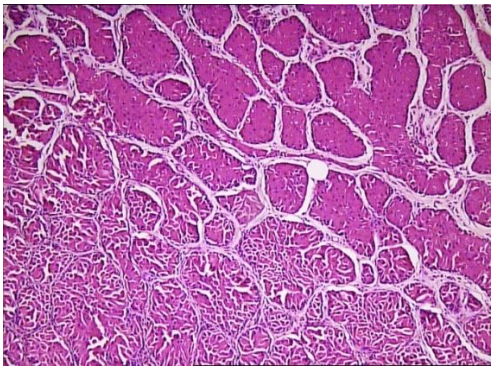

Fig. 4: Histopathological section of growth showing sheet of cells resembling hepatocytes, and separated by fibrous connective tissue (H & E, 100X)

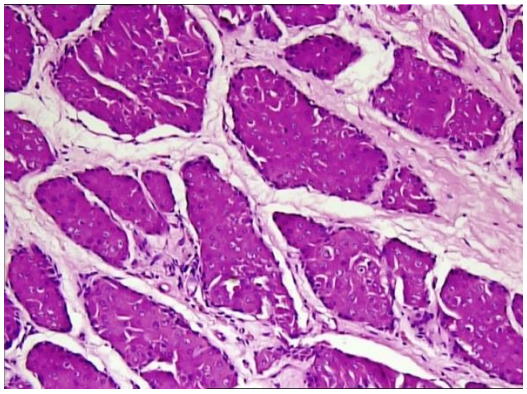

Fig. 5: Histopathological section of growth showing round to oval nucleus and moderate amount of eosinophilic cytoplasm resembling hepatocytes (H & E, 200X)

Perianal gland tumours of small size frequently regress after surgery. Hence, removal of growth has been suggested as treatment for perianal (hepatoid) gland adenoma. Previous studies had revealed that around 70% of benign

tumours (hyperplasia or adenomas) showed no recurrence within a year after surgical excision

Perianal gland adenoma is a hormone influenced tumours hence castration has been suggested treatment for prevention of recurrence as 95% of cases do not recur after castration. Due to this hepatoid gland adenoma is commonly observed in uncastrated male dogs. The castration reduces the chances of recurrence as the androgen hormone act on receptors present in the hepatoid gland in perianal region and result in its proliferation and development of adenoma or adenocarcinoma. Similarly, Villalobos (2011) reported that up to 95% of male dogs responded completely to castration. The other treatment options for perianal gland adenoma included radiation therapy as reported to be effective in almost 70% of dogs and was recommended for stud dogs (Kessler, 2014).

Contribution by Authors

All the authors contributed equally to writing the manuscript. The final manuscript was read by all others and consented to publication.

Conflict of Interests

There is no conflict of interest.

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