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## Perianal gland tumour in dog: A case report

**Jagmeet Kaur, Adarsh Thakur and Shikha Raina**

### Abstract

Perianal glands are non-secretory modified sebaceous glands occurring normally around the anus of dogs. In November 2017, intact male Labrador was presented to the Veterinary clinical complex, Amritsar with a growing mass around anus and defecation problems related to the mass. On physical examination, multiple, intradermal as well as ulcerated nodules around the anus were observed. There was also a history of hematochezia, perianal pain and colorectal obstruction with tenesmus. A complete blood cell count and biochemical profile showed an elevated total Calcium of 15.4 mg/dl and regenerative anemia. Abdominal radiograph showed prostatomegaly with a mildly compressed rectum. A perianal gland adenoma was diagnosed based on the cytology examination which revealed large cuboidal isolated epithelial cells but primarily found within adherent cell clusters. Low nuclear; cytoplasmic ratios, round nuclei, single, distinct nucleolus. Mild anisocytosis and anisokaryosis was also observed. On histopathology, trabeculae and cords of tumor cells subdivided by well vascularised connective tissue stroma was observed. The dog was treated with cyclosporine.

**Keywords:** Dog, perianal, tumor, cytology, histopathology

### Introduction

Multiple structures and glands are present in the perianal region of dog, some of which are unique to that area (Moulton, 2008) <sup>[1]</sup>. Anal sacs or perianal sinuses are paired, lateral, cutaneous anal diverticula present in dogs and rodents. At birth these glands are small but continue to enlarge throughout life until senility (Baker, 2007) <sup>[2]</sup>. Perianal glands are non secretory modified sebaceous glands occurring normally around the anus of dogs but can also be present at other sites like skin of prepuce, tail, loin, groin, posterior part of hind limbs, ventral surface of abdomen, head and neck (Trangandia *et al.*, 2013) <sup>[3]</sup>. It was also suggested that these glands are accessory sex glands are endocrine in nature (Baker, 2007) <sup>[2]</sup>. These glands do not occur in cats (Kirpensteijn, 2006) <sup>[4]</sup>. Perianal glands are also referred to as hepatoid glands because of their histological resemblance to hepatocytes. Perianal gland are also known as circumanal glands (Poltan *et al.*, 2006) <sup>[5]</sup>.

Three types of glandular tumors, viz perianal gland tumour, apocrine tumor of the anal sac and apocrine gland tumor commonly occur in the perianal region of dog (Hayes, 2008 and Parry, 2006) <sup>[6, 7]</sup>. Perianal adenomas comprise more than 80% of all perianal tumors and are the third most common tumour in male dogs because of their testosterone dependence (Withrow, 2001 and Berrocal *et al.*, 1989) <sup>[8, 9]</sup>, most commonly seen in intact (not neutered) dogs (Pettrino *et al.*, 2004) <sup>[10]</sup>. The perianal adenocarcinomas look similar to adenoma but they tend to grow faster, ulcerate frequently, are firmer and recur frequently (Withrow, 2001) <sup>[8]</sup>.

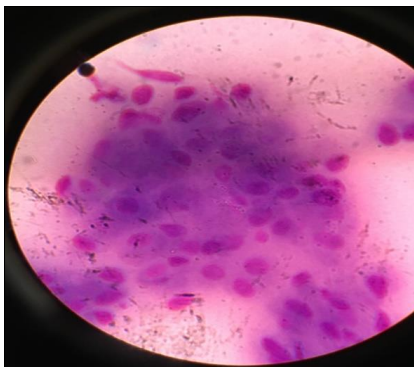
### Case Report

In November, 2017, intact male Labrador was presented to the Veterinary clinical complex of Khalsa College of Veterinary and Animal Sciences, Amritsar with a growing mass around anus and defecation problems related to the mass. On physical examination, multiple, intradermal as well as ulcerated nodules around the anus were observed (Figure 1). There was also a history of hematochezia, perianal pain and colorectal obstruction with tenesmus. A complete blood cell count and biochemical profile showed an elevated total Calcium of 15.4 mg/dl and regenerative anemia (haemoglobin of 7.6g/dl) and no other abnormalities were found in the complete blood count (Total leucocyte count-13110/ul and platelet count-450000/ul of blood) and serum biochemistry (Alanine amino transferase- 28.6 U/L, Total

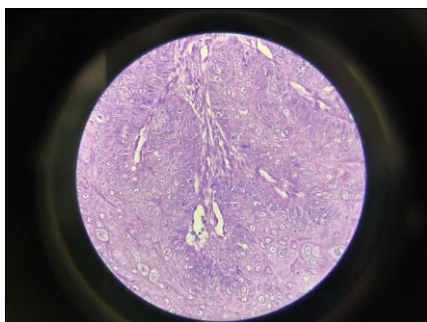
protein- 6.1g/dl and Creatinine- 0.6mg/dl). Thoracic and abdominal radiographs were performed. No abnormalities were recorded on thoracic radiographs. Abdominal radiograph showed prostatomegaly with a mildly compressed rectum. A perianal gland adenoma was diagnosed based on the cytology and histopathological examination. Cytological examination revealed large cuboidal isolated epithelial cells but primarily found within adherent cell clusters (Figure 2). Low nuclear: cytoplasmic ratios, round nuclei, single, distinct nucleolus. Mild anisocytosis and anisokaryosis was also observed. On histopathology, trabeculae and cords of tumor cells subdivided by well vascularised connective tissue stroma was observed (Figure 3). Sebaceous cells with cytoplasmic lipid vacuoles were also seen. The well developed stroma surrounding the hepatoid cells along with lobules was also seen. The dog was treated with cyclosporine for one week.



**Fig 1:** Intra-dermal nodules around anus



**Fig 2:** Cytology: Photomicrograph showing large cuboidal isolated epithelial cells but primarily found within adherent cell clusters.



**Fig 3:** Histopathology: Photomicrograph showing trabeculae and cords of tumor cells subdivided by well vascularised connective tissue stroma, H&E.

### Discussion

Perianal gland adenoma is diagnosed on the basis of physical, cytological and histopathological examination. Javanbakht *et al.*, 2012<sup>[11]</sup> have also reported the case of perianal adenoma on the basis of presence of multiple round, intradermal

nodules around the anus. The presence of large cuboidal isolated epithelial cells but primarily found within adherent cell clusters on cytological examination is in accordance with Vandis, 2010<sup>[12]</sup>. The presence of well developed stroma on histopathology is in accordance with Javanbakht *et al.*, 2012<sup>[11]</sup>. Cytology and histopathology confirmed the presence of anal gland tumor which are correlated in accordance with Ghisleni *et al.*, 2006<sup>[13]</sup>. The similar therapy was given by Mathews *et al.*, 1997<sup>[14]</sup>.

Although this study has certain limitations, many of which are unavoidable, it has yielded important information about clinical manifestations and biological behaviour of perianal gland tumor in dogs and raise awareness regarding it.

### References

1. Moulton JE. Tumors in domestic animals. 3<sup>rd</sup> edition University of California Press, 2008, 70-72.
2. Baker KP. The history and histochemistry of the circumanal hepatoid glands of the dog. *Journal of small animal practice.* 2007; 8:639-647.
3. Trangadia BJ, Patel JM, Vihol PD, Prasad MC, Suthar DN, Tyagi SK *et al.* Pathology of perianal glands tumours in dogs. *Indian journal of Veterinary pathology.* 2013; 38(2):122-123.
4. Kirpensteijn, Jolle. Treatment of Perianal and Anal Sac Tumours. *Proceedings of the North American veterinary conference, 2006, 13-15.*
5. Poltan GA, Movat V, Lee HC, McKee KA *et al.* Breed, gender and neutering status of British dogs with anal sac gland carcinoma. *Veterinary and Comparative Oncology Journal.* 2006; 4:125-131.
6. Hayes HM, Wilson GP. Hormone dependent neoplasms of the perianal glad. *Cancer Research.* 1977; 37:2068-2071.
7. Parry NMA. Anal sac gland carcinoma in a cat. *Veterinary Pathology.* 2006; 43:1008-1010.
8. Withrow SJ. *Small Animal Clinical Oncology.* 3<sup>rd</sup> edition. WB Saunders, Philadelphia, 2001, 346-353.
9. Berrocal A, Vos JH, Van den Ingh TSGAM, Molanbeek RF, Sluijs FJ *et al.* Canine perineal tumours. *Journal of Veterinary Medicine Series A.* 1989; 1-10(36):36-40.
10. Petteirino C, Martini M, Castagnaro M *et al.* Immunohistochemical detection of growth hormone (gh) in canine hepatoid gland tumor. *Journal of Veterinary Medicine Science.* 2004; 66(5):569-572.
11. Javanbakht J, Tavassoli A, Ghalee R *et al.* An overall assessment of circumanal gland adenoma in a terrier mix breed dog. *Asian pacific journal of tropical biomedicine.* 2013; 3(7):580-583.
12. Vandis M, Knoll JS. Canine circumanal gland adenoma: the cytologic clues. *Clinical exposures, 2010.*
13. Ghisleni G, Roccabianca P, Ceruti R, Stefanello D, Bertazzolo W, Bonfanti U *et al.* Correlation between fine needle aspiration cytology and histopathology in the evaluation of cutaneous and subcutaneous masses from dogs and cats. *Veterinary Clinical Pathology.* 2006; 1(15):10-11.
14. Mathews KA, Sukhiani HR. Randomized controlled trial of cyclosporine for treatment of perianal fistula in dogs. *Journal of American Veterinary Medical Association.* 1997; 211:1249-1253.