



E-ISSN: 2320-7078

P-ISSN: 2349-6800

JEZS 2018; 6(2): 2345-2347

© 2018 JEZS

Received: 16-01-2018

Accepted: 19-02-2018

M Sathiyaseelan

Department of Pathology, Rajiv Gandhi Institute of Veterinary Education and Research (RIVER), Kurumbapet, Pondicherry, India

R Kumar

Department of Pathology, Rajiv Gandhi Institute of Veterinary Education and Research (RIVER), Kurumbapet, Pondicherry, India

AW Lakkawar

Department of Pathology, Rajiv Gandhi Institute of Veterinary Education and Research (RIVER), Kurumbapet, Pondicherry, India

S Vijaykumar

Department of Pathology, Rajiv Gandhi Institute of Veterinary Education and Research (RIVER), Kurumbapet, Pondicherry, India

TP Balagopalan

Department of Surgery & Radiology, Rajiv Gandhi Institute of Veterinary Education and Research (RIVER), Kurumbapet, Pondicherry, India

MG Nair

Professor & Head, Department of Pathology, Rajiv Gandhi Institute of Veterinary Education and Research (RIVER), Kurumbapet, Pondicherry, India

Correspondence**MG Nair**

Professor & Head, Department of Pathology, Rajiv Gandhi Institute of Veterinary Education and Research (RIVER), Kurumbapet, Pondicherry, India

Ceruminous gland adenoma in a dog: A histopathological examination

M Sathiyaseelan, R Kumar, AW Lakkawar, S Vijaykumar, TP Balagopalan and MG Nair

Abstract

Pathological diagnosis of a surgically excised ceruminous adenoma in a 5 year old male spitz dog was described in the present study. Animal was presented with the history of a nodular growth in the ear canal. Clinical examination revealed the presence of nodular growth partially obstructing the lumen of the external ear canal. The nodule was excised under general anaesthesia. Histopathologically, the nodule revealed an intact skin with un-encapsulated glandular growth that had a polypoid pattern with cystic changes. The glandular cuboidal cells lining the cyst were supported by a moderate fibro-vascular stroma. Diffusely, lumen of some glands was filled with pale homogeneous eosinophilic material along with few sloughed off epithelial cells, degenerate neutrophils and necrotic debris. Mitotic figures were not discernible. The gross and histopathological features were characteristic of papillary cyst adenoma of the ceruminous gland.

Keywords: Ceruminous gland, adenoma, histopathological features

Introduction

The ceruminous glands are modified sweat glands within the deep portion of the external auditory meatus [1]. Tumours of the ear canal are uncommon, representing 2–6% of all canine tumours. They tend to occur in older animals with the mean age between 9–10 years in dogs [2]. The tumours represent a continuum from histologically benign to histologically malignant, and are thus very similar to tumours of apocrine sweat glands elsewhere in skin [3]. Dog breeds at increased risk are Cocker spaniel and Shih-tzu, while breeds at decreased risk are Labrador retriever, Golden retriever, and Doberman pinscher. However, no sex predilection has been noted [3]. In dogs most are benign, but in cats about half are histologically malignant. The adenomas are smooth nodular or pedunculated masses seldom exceeding 1 cm in diameter. The epithelium overlying the tumor is intact unless there is concurrent otitis externa [4]. The present report describes a case of Ceruminous gland adenoma in a dog.

Materials and Methods

A 5-year old male Spitz dog was presented to the Teaching Veterinary Clinical Complex, Rajiv Gandhi Institute of Veterinary Education and Research, Pondicherry, India with the history of a nodular growth in the ear canal. Clinical examination revealed the presence of nodular growth partially obstructing the lumen of the external ear canal. The nodule was surgically excised under general anaesthesia and the whole tissue was collected for histopathological examination. After gross examination, representative tissue sample was fixed in 10% neutral buffered formalin. The formalin fixed tissue was processed, embedded in paraffin and sections were cut at 4 micron thickness and stained with routine Haematoxylin and Eosin [5].

Results and Discussion

Gross Pathology: Grossly, a single nodule measuring 11 mm diameter at the greatest dimension with irregular surface was observed. The cut surface was smooth and brown in color. The mass was lobulated and few places cystic changes were noticed.

Histopathology: Microscopic examination revealed an intact skin with un-encapsulated glandular growth that assumed a polypoid pattern with cystic changes. The epidermis showed mild degree of hyperplasia with acanthosis (Fig. 1). The cuboidal cells lining the cystic

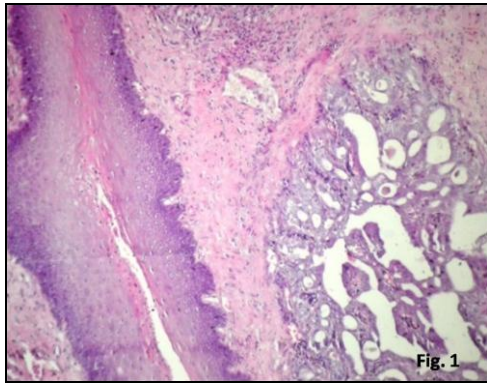


Fig 1: Un-encapsulated glandular growth located beneath the intact skin. Epidermis shows mild degree of hyperplasia with acanthosis. H&E x 200

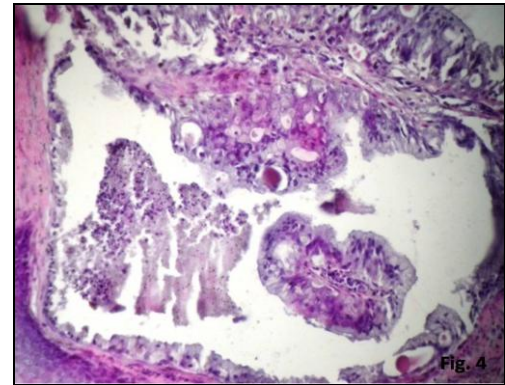


Fig 4: Lumen of cystic tubules filled with sloughed epithelial cells, neutrophils and necrotic debris. H&E x 400

glands were supported by a moderate fibro-vascular stroma. The neoplastic cells had indistinct cell borders, moderately eosinophilic cytoplasm and round to oval nuclei with distinct nucleolus. Within the glands, the neoplastic cells frequently piled up and formed papillary projections into lumen (Fig. 2). There was mild degree of pleomorphism. Mitotic figures were not discernible. Diffusely, lumens of some of the were filled with pale homogeneous eosinophilic material (Fig. 3) along with few sloughed epithelial cells, degenerate neutrophils and necrotic debris (Fig. 4). The gross and histopathological features were characteristic of papillary cyst adenoma of the ceruminous gland.

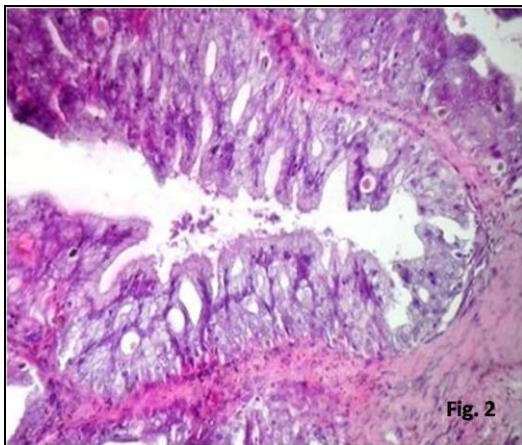


Fig 2: The tubules lined by cuboidal cells, forming papillary projections into lumen and supported by a moderate fibro-vascular stroma. H&E x 200

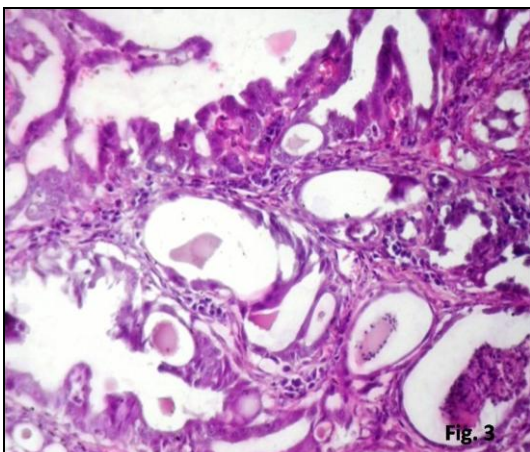


Fig 3: Cystic glandular changes with homogeneous light eosinophilic material within the lumen. H&E x 200

The most common neoplasm of the ear canal is ceruminous gland in origin. Ceruminous gland adenomas are more common in the cat than in the dog. It may develop as a sequel to otitis externa, a senile degenerative change or, in some cases, a congenital condition [6]. The most common symptoms of benign neoplasia are otitis externa, including pruritus, head shaking, malodor, otorrhea, and occasionally hemorrhage [7]. Benign tumors are typically raised masses which are rarely ulcerated in contrast to malignant tumors which are more likely to be ulcerated and bleeding. Neurological signs are observed in approximately 10% of dogs with malignant tumors. Tumors are often multiple nodules or vesicles, usually less than 2mm in diameter and are confined to the external ear canal. They are dark blue, brown or black [4]. However, in the present study the mass was single and the animal did not show any specific clinical signs excepting for frequent ear scratching.

Histologically, adenomas are well-differentiated tubular and cystic growths. The most typical feature is the presence within lumina of deeply eosinophilic or orange, colloid-like secretion typical of cerumen [3, 4]. This is in accordance with the observations of the present study. Aggregation of pigment laden macrophages within the interstitium, neutrophils within the glandular lumina, and plasma cells in the periglandular stroma are the features of ceruminous gland adenomas. In addition, the author has described the invasion of neoplastic cells into the intraepidermal ductal portion of the gland (acrosyringium), with small nests of tumor cells in this site [3]. However, such findings are not observed in the present study excepting for the presence of degenerated neutrophils in the tubular lumen.

Successful post-operative management was carried out and the animal was reported to be healthy without any complications.

Conclusion

The tumours arising from ceruminous glands are uncommon in dogs. The histological features of the present case were suggestive of ceruminous gland adenoma, which responded with uneventful recovery on surgical resection of the tumour.

Conflict of Interest

The authors have no conflicts of interest to declare. All authors participated and approved the manuscript for publication in International Journal of Livestock Research.

Acknowledgements

Authors are thankful to The Dean, Rajiv Gandhi Institute of Veterinary Education and Research, Pondicherry, India for the facilities provided.

References

1. Delmann HD, Brown EM. Textbook of Veterinary Histology. 2nd Edition, Lea and Febiger. Philadelphia, USA, 1981
2. Morris J, Dobson J. Small Animal Oncology. 1st Edition., Blackwell Sciences Ltd., U.K. 2001, 118-119.
3. Jubb KVF, Kennedy PC, Palmer N. Pathology of domestic animals. 4th Edition., Academic Press, California, U.S.A. 2005; 1:551
4. Meuten DJ. Tumours of domestic animals. 4th ed., Iowa State Press, U.S.A, 2002, 73.
5. Luna LG. Manual of histologic staining methods of the Armed Forces Institute of Pathology. 3rd ed., McGraw Hill, New York, U.S.A, 1968.
6. Gross TL, Ihrke PJ, Walder EJ, Affolter VK. Skin Diseases of the Dog and Cat - Clinical and Histopathologic Diagnosis 2nd Ed., Blackwell Science, Ltd. 2005, 667-668.
7. Harvey RG, Harari J, Delauche AJ. Ear Diseases of the Dog and Cat. Iowa State University Press. 2001; 23:84-106.