CASE REPORT
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CERUMINOUS GLAND CYSTOMATOSIS IN AN ELEVEN-MONTH-OLD HIMALAYAN CAT: A CASE REPORT

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ABSTRACT

Ceruminous gland cystomatosis is an uncommon non-neoplastic disorder arising from the meatus ceruminous gland. An 11-month-old male Himalayan cat was referred for evaluation of nodular eruptions on the concave pinna of both the ears that was not responding to antibiotics and anti-inflammatory agents. The condition was tentatively diagnosed as ceruminous gland cystamatosis based on the history and clinical signs, which was later confirmed by histopathological evaluation. The nodules were cauterized using electro-surgery unit under tramadol-xylazine-ketamine-diazepam anesthesia followed by medication using topical and systemic antibiotics and anti-inflammatory agents. The cat had an uneventful recovery except for mild scar formation at the cauterized site.

Keywords: Ceruminous gland, Cysto-matosis, Cystadenomatosis, Electrosurgery, Otitis externa

INTRODUCTION

Ceruminous gland cystomatosis, often referred as ceruminous adenoma or ceruminous cystadenomatosis, is a rare non-neoplastic disorder arising from the ceruminous gland of lining of meatus (Miller *et al*., 2013). The exact etiology is unknown but thought to be either congenital, degenerative or due to senile changes (Gross *et al.*, 2008). The condition has been reported rarely in cats. A breed related genetic predisposition has been reported in Persian and Abyssinian cats with predominance in middle aged to older cats (Gross *et al.*, 2008). The clinical presentation is presence of multiple discrete to coalescing bluish-black or purple nodules or vesicles over the concave pinna and tragus. It may be either unilateral or bilateral, accompanied by mild to severe otitis externa and even otitis media (Miller *et al*., 2013). Even though several treatment options like surgical excision, cryotherapy, electrocautery and chemical cautery have been proposed, ablation of aggressive cysts

using carbon dioxide laser is the preferred method of treatment (Duclos, 2006). The present case report describes the clinical presentation and diagnosis of ceruminous gland cystomatosis in an 11-month-old Himalayan cat and the outcome of treatment by electrosurgery.

CASE HISTORY AND OBSERVATION

An 11-month-old male Himalayan cat was referred to District Veterinary Centre, Kannur, Kerala for evaluation of nodular eruptions on the concave pinna of both the ears (Fig. 1). The owner reported that the nodules were present since birth. The nodules have gradually progressed in size and increased in numbers over the past few months and was not responding to both topical and systemic antibiotics, and steroidal and non-steroidal anti-inflammatory agents. The vaccination and deworming history was regular. On clinical examination, the animal was active and alert but showed frequent discomfort and irritation by head shaking and scratching. Detailed examination revealed the presence of multiple discrete and coalescing bluish-black vesicles over the entire concave pinna and tragus obliterating the external ear canal. Some of the vesicles were found ruptured. Bilateral external otitis was evident by the presence of mucopurulent otorrhea. The physiological, haematological and serological parameters were within the normal range. Fine needle aspiration of the cyst was attempted and a brownish serous exudate was observed. Based on the history and clinical signs, a tentative diagnosis of ceruminous gland cystamatosis was made. Tissue sections were collected from the vesicles for histopathological evaluation under tramadol-xylazine-ketamine sedation, administered intramuscularly at the rate of 4 mg/kg, 0.5 mg/kg and 10 mg/kg body weight (BW) respectively.

TREATMENT AND DISCUSSION

The treatment was initiated with topical ciprofloxacin ear drops (Ciplox, Cipla Ltd., Mumbai, India) at the rate of 4 drops twice daily along with oral cefpodoxime (Cefpet, Intas Pharmaceuticals Ltd., Ahmedabad, India) and meloxicam (Melonex, Intas Pharmaceuticals Ltd., Ahmedabad, India) at the rate of 10 mg/kg BW and 0.2 mg/kg BW, respectively once daily. The histopathological evaluation revealed the presence of tissue with stratified squamous epithelium and sub epithelium with two cysts lined by cuboidal epithelium suggestive of ceruminous gland cystomatosis (Fig. 2). Ablation of the cyst using monopolar electrocautery was decided. Twelve hour fasting of animal was advised before surgery. The ear canal was plugged with sterile cotton and the concave pinna of both the ears were

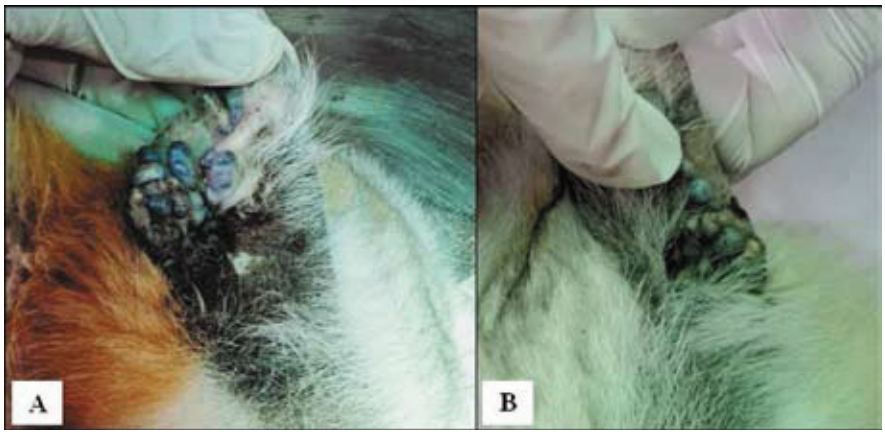

Fig. 1 The bluish-black nodular eruptions on the concave right (A) and left (B) ear pinna

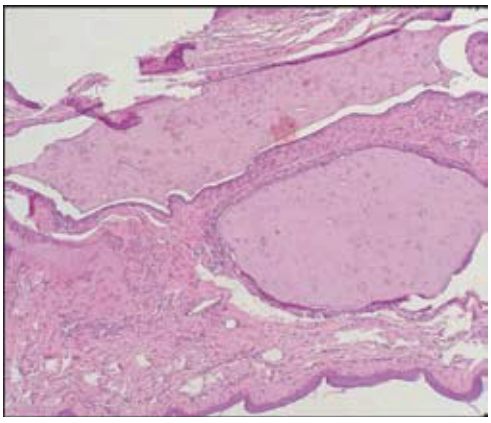

Fig. 2 The histopathological evaluation showed the presence of tissue with stratified squamous epithelium and sub epithelium with cysts lined by cuboidal epithelium

Fig. 3 The appearance of ear pinna during the 60th post-operative day

scrubbed with 1% chlorhexidine solution and aseptically prepared with povidone iodine (5%) solution. Preoperatively, ceftriaxone (Intacef, Intas Pharmaceuticals Ltd., Ahmedabad, India) at the rate of 20 mg/kg BW was given intravenously half an hour before premedication. Butorphanol (Butrum-1, Aristo Pharmaceuticals Pvt. Ltd., Raisen, India) was administered at the rate of 0.2 mg/kg BW followed by xylazine (Xylazine, Neon Laboratories Limited, Mumbai, India) at the rate of 1 mg/kg BW and meloxicam at the rate of 0.2 mg/kg BW intramuscularly. After 15 minutes, general anaesthesia was induced with ketamine hydrochloride (Aneket, Neon Laboratories Limited, Mumbai, India) at the rate of 15 mg/kg BW intramuscularly followed by diazepam (Calmpose, Ranbaxy Laboratories Limited, Baddi, India) at the rate of 0.2 mg/kg BW intravenously. The anaesthesia was maintained using a mixture of ketamine and diazepam, equal quantity by volume (1:1 v/v), along with

continuous intravenous infusion of Normal Saline (Infutec Healthcare Ltd., Indore, India) peri-operatively.

The patient was positioned in dorsal recumbency over patient neutral plate (grounding pad) on the operating table. The tissues were sparked with the monopolar electrode kept at 30 to 80 watts from the base of each cyst. The electrode tip was intermittently cleaned with sterile cotton to remove eschar. The procedure was continued until the entire vesicles were ablated along the margins of apparently healthy tissue. Postoperatively, oral antibiotics and analgesics were continued for four more days along with topical 2% metronidazole-povidone iodine ointment (Metrogyl-P, Lekar Pharma Ltd., Mumbai, India). Mild inflammatory swelling was observed on the operated site during the first post-operative day. Follow-up observation after a week showed a clear patent external ear canal along with healing scars over the concave pinna and the animal had an uneventful recovery. Recurrence was not observed when reviewed after two months (Fig. 3).

Ceruminous gland cystomatosis are purple to bluish-black cysts arising from the ceruminous gland which are modified apocrine tubular sweat glands prevalent in the upper half of the horizontal meatus canal (Harvey *et al*., 2001). The differential diagnosis of the condition include melanocytic tumors, glandular hyperplasia, cutaneous polyps and granulomas, dysplasia, adenoma and adenocarcinoma, parasitic cysts and other proliferative disorders and malignancies (Moisan and Watson, 1996; Sula, 2012). The recurrent bilateral external otitis secondary to the multiple large nodules along the tragus obstructs the removal of debris, normal self cleaning of ear and provides a favorable environment for microbial growth (Miller *et al*., 2013). Also, the postulated frequent association of chronic otitis with neoplastic transformation of auricular components recommended early and aggressive treatment (Sula, 2012). The ablation *via* carbon dioxide laser has been suggested as the preferred treatment modality as it is thought to produce less tissue damage and subsequent scar formation (Duclos, 2006). In the present case, electrosurgical ablation of cysts was successfully performed and it could maintain the structure of pinna post-operatively although mild scar tissue formation was observed.

SUMMARY

The clinical presentation and diagnosis of ceruminous gland cystomatosis in an 11-month-old Himalayan cat and the outcome of treatment by electrocautery is discussed.

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