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Aural fibroepithelial polyp excision through lateral ear canal resection in a German Shepherd dog: A case report

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Abstract

A seven-year-old male German Shepherd dog was presented to College clinic with the complaint of irregular hard growth in the right ear with purulent secretion since 15 days. On physical examination of right ear revealed medium sized hard tumor like ulcerated mass in the vertical ear canal and animal was evincing pain on palpation suggestive of auricular tumor with otitis. Surgical intervention through lateral ear canal resection was performed to excise the neoplastic mass and post-operative antibiotic was given for seven days, with regular wound dressing. Histopathology of the excised mass concluded it as fibroepithelial polyp with apocrine gland hyperplasia.

Keywords: German Shepherd dog, aural neoplasia, fibroepithelial polyp, zepp's operation

Introduction

Otitis externa is common in dogs (up to 20% of hospital admissions; up to 7% in cats), and between 50% and 89% of affected dogs have concurrent otitis media [1]. Dogs and cats of any breed or age may develop otitis externa, but dogs with long, pendulous ears (e.g., Spaniels, Basset Hounds) and those with abundant hair in the ear canal (e.g., Poodles) are at higher risk [2]. Ear infections can be caused by both bacterial and fungal origin. Particularly *Malassezia pachydermatis* has been reported as the predominant causative agent of canine otitis externa [3]. Furthermore, among bacterial agents, it is known that *Staphylococcus*, *Pseudomonas*, *Escherichia*, and *Proteus* species are considered important pathogens causing otitis externa in dogs [4]. Primary factors are diseases that have a direct effect on the external ear canal and can cause otitis, including otic parasites such as *Otodectes cyanotis*, hypersensitivity disease [food allergy, atopic dermatitis, contact hypersensitivity], endocrine disease such as hypothyroidism, otic neoplasia and foreign bodies. Underlying hypersensitivity disease is the most common primary factor leading to otitis in dogs [5]. Lateral ear canal resection is indicated in patients with minimal hyperplasia of the ear canal epithelium or with small neoplastic lesions of the lateral aspect of the vertical canal. Lateral ear canal resection facilitates drainage and improves ventilation of the ear canal. It also facilitates placement of topical agents into the horizontal canal [6].

Case history and Clinical Observations

A seven-years-old male German shepherd dog with body weight of 41 kg was presented to Department of Veterinary Surgery and Radiology, Veterinary college, Bengaluru with the history of tumor like ulcerated mass of medium sized present in the vertical canal of right ear discharging purulent material (Fig.1). On physical examination, rectal temperature was 103.2 °F and animal was evincing pain on palpation of the affected ear. Haematology showed elevated total leukocyte count (34.5×10^3), haemoglobin (12.1g/dl), platelets (301×10^3), red blood cell (5.64×10^6), HCT (38.8%) and creatinine (1.2 mg/dl), ALT (22.0 U/L). Based on clinical findings, it was diagnosed as aural neoplasia with otitis and surgical intervention was planned to remove the neoplastic mass through zepp's operation.

Treatment and Discussion

Animal was premedicated with Inj. Atropine sulphate @ 0.04 mg/kg BW IM and Inj. Xylazine hydrochloride @ 1 mg/kg BW IM. Inj. Ceftriaxone @ 25 mg/kg BW and Inj. Meloxicam 0.2 mg/kg BW were administered subcutaneously. Thiopental sodium (Thiosol) was administered @ 12.5 mg/kg BW IV for induction and maintenance.

The surgical site was aseptically prepared. The dog was placed on its left lateral recumbency with the affected ear facing upwards. Two parallel incisions on the skin lateral to the vertical ear canal were made that extend from the tragus ventrally upto horizontal canal and reflected the skin flap dorsally, exposing the lateral cartilaginous wall of the vertical ear canal. Resect the canal ventrally upto the level of the horizontal canal (Fig. 2). Bleeding was arrested by electric cauterization. Excised edges of cartilage were sutured using polyglactin 910 no.1 in simple interrupted suture pattern, skin was sutured with polyamide no.1 in simple interrupted suture pattern (Fig. 3). Post-operatively, animal was given tablet amoxicillin plus potassium clavulanate 625 mg bid for seven days, tablet carprofen 75 mg sid for three days and advised alternative day wound dressing and to apply an Elizabethan collar to prevent selfmutilation of surgical site. Surgical wound healed and sutures were removed on 10th post-operative day. Histopathology of excised mass showed that the tissue fragments lined by stratified squamous epithelium exhibiting areas of ulceration and covered by inflammatory granulation tissue; subepithelial stroma appears edematous and showed apocrine glands admixed with mixed inflammatory cells suggesting of fibroepithelial polyp with apocrine gland hyperplasia. Otitis externa in the dog is a common and multifactorial cutaneous disorder accounting upto 20 % of consultations in small animals [7]. Primary factors of otitis externa are commonly manifestations of generalised dermatological disease, as the ear canal epithelium is an extension of the skin and therefore, it is subject to the same diseases [8]. Changes that occur in the external ear canal in response to chronic inflammation may include glandular hyperplasia, glandular dilation, epithelial hyperplasia, and hyperkeratosis [9]. These changes usually result in increased cerumen production along the external ear canal, which contributes to increase in local humidity and pH of the external ear canal, thus predisposing the ear to secondary infection. Although it is easy to diagnose, requires proper identification and appropriate treatment for its cause. Lateral ear canal resection can be easily performed in early stages of diseases when medical treatment fails to remove the cause and increases the pet's quality of life and enhances the pet-family bond. However, this technique is not a cure for otitis externa, but provides appropriate ear canal drainage and ventilation, facilitate ear cleaning and treatment. It also reduces the number of otitis recurrences, the amount of accompanying pain and ear odors. In our case, animal got recovered without any complication and surgical wound was almost healed by end of 20th post-operative day (Fig. 4). In conclusion, Lateral Ear Canal Resection is found to be best surgical treatment without any complications in case of early

stages of otitis externa which has not yet progressed to otitis media, as it facilitates lifetime management of disease and reduces the chances of recurring infections.



Fig 1: Photograph showing Medium sized hard ulcerated mass in the vertical canal of right ear.



Fig 2: Resected rectangular skin flap and lateral ear canal exposing the fibroepithelial polyp.



Fig 3: Sutured edges of incised wound with polyamide.no.1 in simple interrupted suture pattern.



Fig 4: Photograph showing healed operated site on 20th post-operative day without any complication.

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