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Original Article

PINNAL SQUAMOUS CELL CARCINOMA IN A CAT: A CASE REPORT

NAVEEN, M., DHANALAKSHMI, S. AND KAVITHA RANI, B.

Teaching Veterinary Clinical Complex, Veterinary College, Vinobanagara, Shivamogga 577204, Karnataka. E. mail: naveencspvet@gmail.com

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Abstract: A white male cat aged 2.5 years was presented to Teaching Veterinary Clinical Complex, Veterinary College, Shivamogga with a history of abnormal growth on both the ears since 1 month and cat was taking food and water normally. Clinical examination revealed presence of ulcerated tumor like growths on the right ear pinna and dermatitic lesions on the left ear pinna. The condition was tentatively diagnosed as squamous cell carcinoma of ear pinna and it was decided to perform partial pinnectomy. Surgical site was prepared asceptically. Anaesthesia was performed using Inj Calmpose 3mg IM and Inj Ketamine 1.6ml IM. Partial pinnectomy was performed in the right ear to remove portion of the ear pinna affected with SCC and in the left ear to remove the portion of ear pinna affected with dermatitis. Sample was collected for histopathology. Cat was kept on Susp Cefpet for another 7 days. Cat recovered without any complications. Histopathological findings confirmed the condition as squamous cell carcinoma of ear pinna.

Key words: Squamous cell carcinoma, Ear, Cat

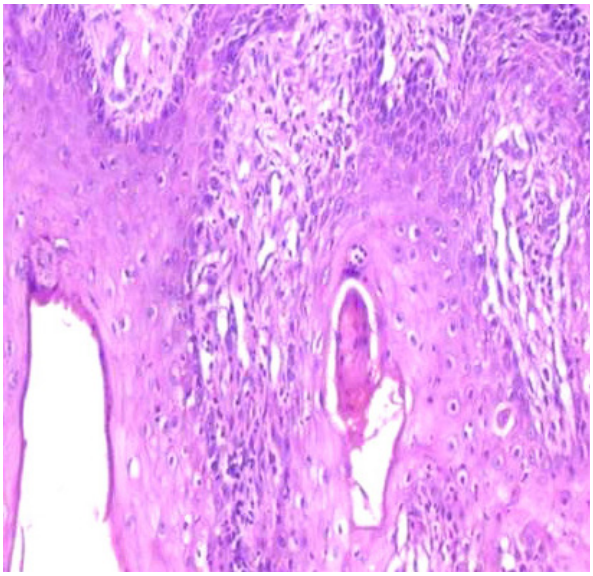
INTRODUCTION

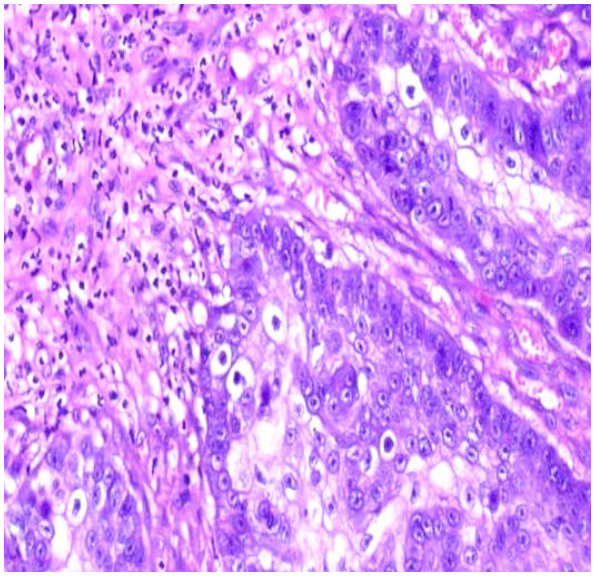
Neoplasia of the ear pinna in cats is most commonly the squamous cell carcinoma (SCC) predominantly seen on the pinna [1,2]. However, SCC is also seen on the nose and eyelids [2-4]. The disease begins as actinic dermatitis lesions [1,5] with erythema, crusting and desquamation constituting early signs to disease [6]. Actinic dermatitis develops into SCC by neoplastic transformation in animals which are exposed to extended periods of actinic radiation [1,6-8]. For this reason, it is seen more frequently in tropical regions [1].

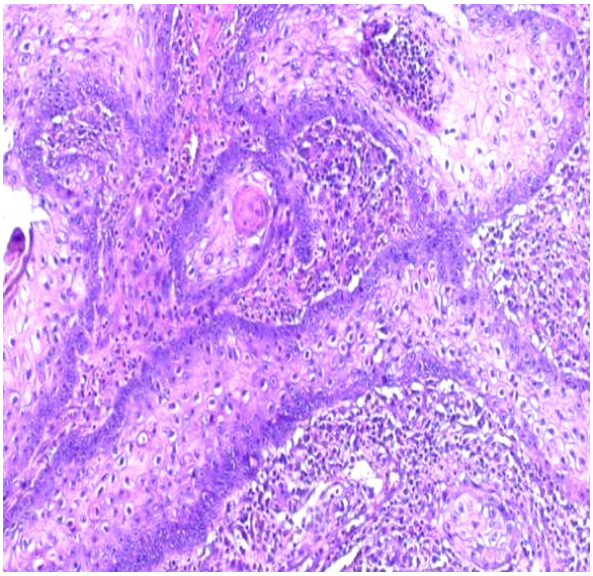
MATERIALS AND METHODS

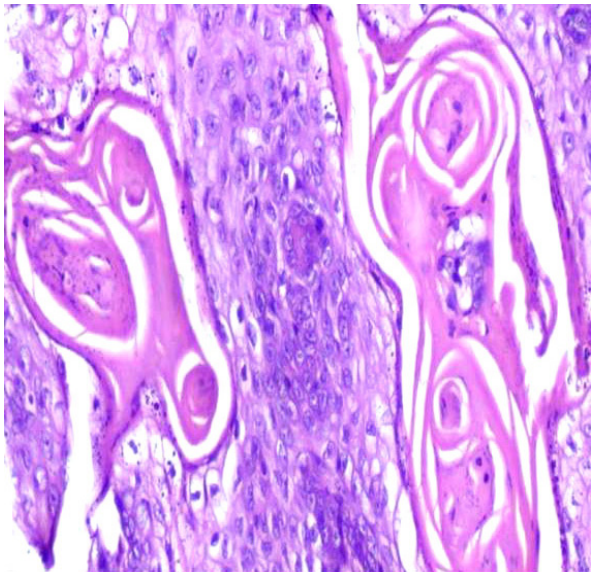
A white coat colour, male, cat aged about 2.5 years was presented to Teaching Veterinary Clinical Complex with the complaint of abnormal growth on both ear pinna since one month and frequent rubbing of the face and bleeding from the growth. Food and water intake normal, however, going down in condition. Based on clinical signs, the condition was tentatively diagnosed as squamous cell carcinoma of ear pinna. Initially, the cat was kept on prednisolone for four days for the regression of the tumor mass. But, there was no sign of regression and it was decided to perform bilateral partial pinnectomy.

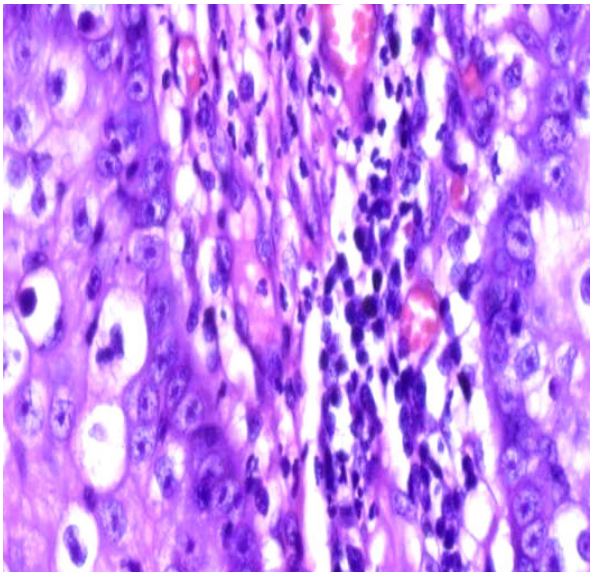
Sample was collected and transferred to 10% formalin for histopathological examination in the Department of Veterinary Pathology. Processing of the tissue was performed by paraffin embedding technique [9]. Tissue was fixed with 10% formalin, embedded in paraffin, and then manually sectioned with microtone to obtain 4µm thick paraffin











sections. Dewaxed sections were then stained with hematoxylin and eosin (H&E). After complete processing tissue was examined.

RESULTS

Right ear pinna had a large ulcerated growth about 6cm diameter. Borders were irregular, raised, cauliflower like appearance and covered with dark crusty necrotic layer. Hard to touch and extended from apex to the middle of ear pinna, more towards convex surface (Fig 1). Left ear pinna had dermatitis lesions. Ulcerated reddish lesions parallel to apex. Apex border was irregular and thickened. Cat was active, but, dirty hair coat and matting of discharge around the lesion indicative of decreased grooming.

Histopathological examination revealed the proliferation of basal cell layer with almost intact basement membrane, areas of hypergranulosis and prickle cell layer proliferation. Formation of keratinous pearls were also evident (Fig 3). Atypical squamous cells with mitotic figures especially involving the basal cells, inflammatory cell infiltration, blood vascular congestion, fibroplasia in the dermis were noticed (Fig 4). There was a pleomorphy in the stratified squamous cells, lymphocytic inflammatory cell infiltration in the fibro-vascular sub-epidermal layer, formation of keratinous pearl and squamous cell nests (Fig 6). Atypical squamous cell proliferation with formation of keratinized concentric and laminated layers called cell nests (Fig. 7). These findings confirmed the condition as the squamous cell carcinoma.

Surgical site was prepared asceptically. Pre-operatively, Inj Ceftriaxone 50mg (Intacef, Intas Pharmaceuticals, Ahmedabad) IV and Inj Diazepam 3mg (Calmpose, Ranbaxy) IV was administered. Anaesthesia was induced and maintained using Inj Ketamine 1.6ml (Aneket, Neon Laboratories) IM. Partial pinnectomy was performed in the right ear to remove portion of the ear pinna affected with SCC and in the left ear to remove the portion of ear pinna affected with dermatitis. Bleeding arrested with thermocautery and wound edges sutured with catgut '0' by continuous pattern (Fig 2). Post-operatively, cat was kept on Cefpodoxime Proxetil (Cefpet oral suspension, Intas Pharmaceuticals, Ahmedabad) for 7 days. Cat recovered without any complications. Three months post-operative observation did not show any recurrence or complications in ear pinna.

DISCUSSION

Pinnals squamous cell carcinoma (SCC) were bilateral in 50% of cases [10] which is also observed in present case and in other cats [2-4]. White haired cats with blue eyes are prone to the condition [1,7]. In present case squamous cell carcinoma was noticed on the right ear pinna and dermatitis lesions were noticed on the left ear pinna. SCC had a lower probability of distant or regional matastasis [2,8] and chances of local relapse [4]. Because of this reason, partial pinnectomy was considered as the best treatment of choice [3,4]. Partial pinnectomy could be performed once actinic damage was seen on pinna [1]. Surgical removal of SCC lesions could be performed only with pinnectomy or vertical external acoustic canal ablation along with pinnectomy [4]. Radical pinnectomy could be sufficient when AD or SCC is located on the top half of the upper pinna.

Explanations offigures

Fig 1: Tumor like growth on right ear pinna and dermatitis lesions on left ear pinna.

Fig 2: Cat after partial pinnectomy.

Fig 3: H&E 10x: Proliferation of basal cell layer with almost intact basement membrane, areas of hypergranulosis and prickle cell layer proliferation. Formation of keratinous pearls also evident.

Fig 4: H&E 20x: Atypical squamous cells with mitotic figures especially involving the basal cells.Inflammatory cell infiltration, blood vascular congestion, fibroplasia in the dermis.

Fig 5: H&E 20x: Stratified squamous cellular pleomorphy, Lymphocytic inflammatory cell infiltration in the fibro-vascular sub-epidermal layer.Formation of keratinous pearl and squamous cell nests.

Fig 6: H&E 40x: Atypical squamous cell proliferation with formation of keratinized concentric and laminated layers called cell nests.

Fig 7: H&E 40x: Lymphocytic infiltration in the dermis, atypical squamous epithelial proliferation, vascular congestion and neovascularisation.

It was considered that partial pinnectomy might be performed when AD damage was very small and on the top half of the pinna [11]. Further the radical pinnectomy was the more reliable method. However, in the present case partial pinnectomy was performed for both the ears and cat recovered without any relapse of the tumor.

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