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Radical excision and histopathological diagnosis of Trichoblastoma in a German Shepherd dog

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Abstract

An eight-year-old, male German shepherd dog was brought with the chief complaint of having a mass at the lateral aspect of left metacarpal region for past six months. Clinically a firm, spherical pink colored growth was seen. The growth was radically excised under inj. Atropine sulphate @ 0.04mg/kg I/M, inj. Xyazine HCl @ 1mg/kg I/M and Inj. Ketofol I/V (Propofol @ 5mg/Kg and Ketamine @ 3mg/Kg.) and evaluated histopathologically which revealed it to be trichoblastoma.

Keywords: Trichoblastoma, Radical excision, Dog, Histopathology

Introduction

Benign hair follicle tumors are relatively rare cutaneous neoplasms defined by the type and degree of hair follicle differentiation (Ahmed *et al.*, 2014) [2]. In veterinary medicine, benign hair follicle tumors include trichoblastomas, trichoepitheliomas, pilomatricomas, tricholemmomas and trichofolliculomas (Gross *et al.*, 2005) [5]. Canine trichoblastoma is a benign cutaneous tumour derived from the remnants of the primitive hair germ of embryonic follicular development. It most commonly located on the head and neck (Gross *et al.*, 2005; Mauldin and Kennedy, 2016; Goldschmidt *et al.*, 2016) [5, 8, 4]. Incidence of Trichoblastomas was 2.0-2.6% in dogs and most affected lesions are found in middle-aged and old animals (6–9 years of age) (Abramo *et al.*, 1999) [1]. Cutaneous tumors commonly exhibited multicentric occurrence (14.6%) followed by single occurrence in hindlimb (12.1%), forelimb (8.6%), buttock (7.1%), abdominal (6.5%) and costal (5.2%) areas (Martins *et al.*, 2022) [7]. Hair follicle tumors often affect animals with short and thick hair *viz*, German shepherd, Labrador, Cocker spaniels, Bassett hounds and mixed-breed dogs (Gross *et al.*, 2005; Goldschmidt *et al.*, 2016) [5, 4]. The present report records a case of successful surgical management of trichoblastoma present at the lateral aspect of left metacarpal region a German Shepherd dog.

Case details

A seven-year-old, intact, male German shepherd dog was presented with the complaint of having a mass on the left limb for the past six months which had been gradually increased in size. Clinical examination revealed a solitary, exophytic, spherical, firm, non-ulcerated round, pink with haemorrhages growth on the lateral aspect of the left limb just below the carpal joint at the metacarpal region (Fig.1). There were no signs of palpable peripheral lymph node enlargement. A survey radiograph at thorax showed no evidence of pulmonary metastasis. All the biochemical and haematological parameters were within the normal range. Based on the history, clinical examination and radiographic observations the case was suspected for cutaneous tumor and surgical excision was decided upon and the animal was prepared for aseptic surgery as per the standard protocol.



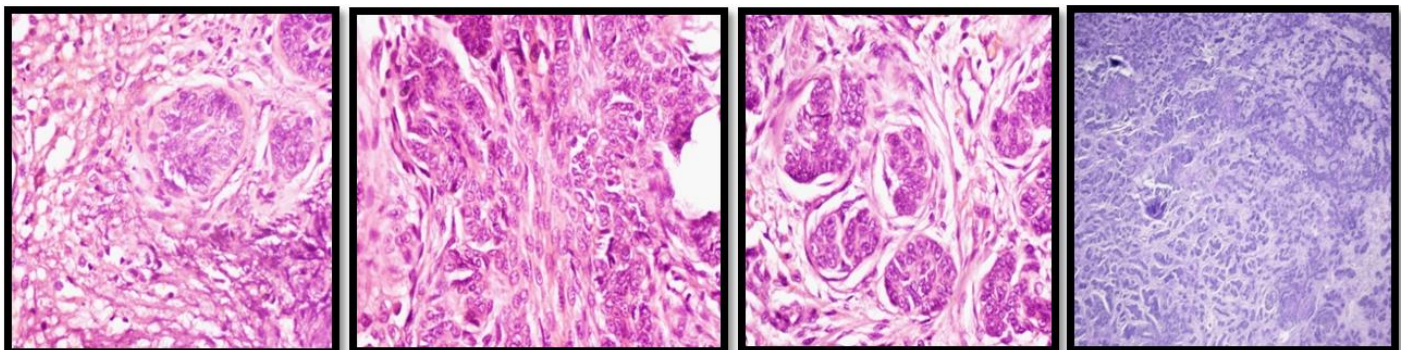
Fig 1: Growth at the lateral aspect of left metacarpal region

Surgical treatment

The site was prepared for surgical intervention as per the standard procedure. The dog was premedicated with inj. Atropine sulphate @ 0.04 mg/kg body weight I/M and inj. Xylazine hydrochloride @ 1 mg/kg body weight I/M. General anaesthesia was induced with intravenous injections of Ketofol I/V (Inj. Propofol @ 5mg/kg + Inj. Ketamine Hcl @ 3mg/Kg). the dog was restrained in lateral recumbency with the affected limb up and the growth visible towards the operator. An elliptical incision was made around the base of the growth and the mass was excised by blunt dissection. The subcutaneous tissue and skin were sutured by following the standard operating procedure. The radically excised tissue sample was processed, evaluated histopathologically and was



Fig 2: Complete recovery one month after surgery



(Neoplastic foci arranged in ribbon pattern consisting of well demarcated multiple lobules, neoplastic basaloid cells with abundant stroma. The neoplastic cells showing spherical to oval vesicles with prominent nucleoli and scanty to few mitotic figures were seen).

Fig 3: Histologically evaluation of tumor revealed it to be trichoblastoma

Discussion

Trichoblastoma is usually present as a solitary, firm, alopecic, nodular dome shaped or polypoid growth (Yoon *et al.*, 2014)^[11]. Typically, trichoblastoma are slow growing, freely moveable within/beneath the skin, firm, usually solitary and most commonly located on the head and neck (Gross *et al.*, 2005 and Mauldin and Kennedy, 2016)^[5, 8]. In the present case, the growth on the lateral aspect of the left limb just below the carpal joint at the metacarpal region had been gradually increasing in size since past six months. It was solitary, exophytic, spherical, firm, non-ulcerated round and pink with haemorrhages. Martins *et al.* (2022)^[7] reported highest incidence of trichoblastoma in hind limb. Most of the tumors are 1 to 2 cm in diameter. However, rarely much larger lesions may occur. Tumour mass was excised surgically as Haydardedeoğlu *et al.* (2015)^[6], Winkler (2016)^[10] and Rani *et al.* (2021)^[9] opined that surgical excision is the treatment of choice.

diagnosed as trichoblastoma (Fig.3).

Post-operatively, the animal was administered Inj. Intacef^R (Ceftriaxone) @ 25 mg/kg I/V b.wt for 5 days and Inj. Melonex^R (Meloxicam) @ 0.2 mg/kg b.wt. I/M for 2 days. Antiseptic wound dressing with povidone iodine and Robert Jones bandage was done to protect surgical site. The skin sutures were removed on 8th post-operative day. The case recovered uneventfully (Fig 2) and no relapse of the condition was seen during the follow up period of study of six months.

Histologically, trichoblastoma is classified into ribbon, trabecular, granular cell, spindle cell or clear cell types. Most cases are a mixture of these patterns with a predominance of ribbon epithelial aggregates surrounded by fibrous stroma (Gross *et al.*, 2005 and Campos *et al.*, 2014)^[5, 3]. Similar findings were observed in the present case. The dog recovered uneventfully and there was no recurrence 3 months after surgery. Similar findings were recorded by Campos *et al.* (2014)^[3], Haydardedeoğlu *et al.* (2015)^[6], Winkler (2016)^[10] and Rani *et al.* (2021)^[9].

Conclusion

A case of trichoblastoma small sized trichoblastoma situated at the lateral aspect of left metacarpal region in a German shepherd dog and its successful surgical management is reported.

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