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Fibromatous epulis in a male adult dog: a case report

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A five-year-old male Boerboel was presented with the complaint of oral lesion noticed upon routine examination and consultation, with no complaint of inappetence or anorexia. Following the gross evaluation and surgical excision of the mass, histopathological examination was performed. It revealed a highly vascularised tissue with a diffuse fibroblast proliferation and marked inflammatory cellular infiltration. A low mitotic index with no atypical division of the neoplastic cells was observed. The mononuclear cellular infiltration was consistent with inflammatory features of the tumour. Following the gross and histopathological examinations, in addition to non-bone invasion, the diagnosis of fibromatous epulis was established.

Keywords: epulis, gingiva, Boerboel, fibroblast

INTRODUCTION

Epulides are benign tumour or tumour-like masses present on the gingiva, arising from the periodontal ligament. They are grossly similar to gingival hyperplasia and are more common in dogs than in cats (Kim et al., 2006). Epulides are slow-growing and firm masses and are usually enveloped by intact epithelium. Four different types of epulides have been reported: fibromatous, ossifying, acanthomatous, and giant cell epulides. They can be differentiated histologically. Acanthomatous epulis reserves the potential to invade the bone, others, including fibromatous epulis, are not invasive (Stancu et al., 2012). Oral cancers other than fibromatous and ossifying epulides that are attached to the bone require thorough examination. In addition to the swelling in the gingival region, fibromatous epulis in dogs may be characterised by the following clinical signs; excessive salivation due to irritation caused by the presence of the growth in the oral cavity, exophthalmos, weight loss as a result of anorexia due to difficulty in mastication, halitosis, epistaxis, dysphagia, sanguineous oral discharge, cervical lymphadenopathy; the presence of the periodontal growth also causes loose teeth (Huang et al., 2019).

Fibromatous epulis may appear single or multiple near the teeth, and its presence may hinder mastication. It may be sessile or pedunculated.

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Fibromatous epulis of periodontal origin is characterised by dense cellular stroma, which is regularly associated with blood vessels and consists of stellate cells and tightly packed fibrillar collagen. Fibroblasts or fibrocytes that are observed in this condition are generally elongated and spindle- shaped (Stancu et al., 2012).

This report described the diagnosis of an irregular growth on the gingiva, which was limited to the maxillary region but extended to the caudal part of the oral cavity.

CASE REPORT

A five year-old male Boerboel was presented with the complaint of oral lesion noticed upon routine examination and consultation. No complaint of inappetence or anorexia. The patient weighed 22 kg and was in good body condition. There were locally-extensive diffuse irregular growth on the gum, affecting the upper jaw and extended to the caudal part of the oral cavity. The growths were pinkish with some multiple foci of necrosis measuring about 2–5 cm in diameter and was mildly adherent to the periosteum of the underlying maxillae, without bony invasion (Fig. 1). Growths of varying sizes almost obscured the canine tooth. The mass was excised and fixed in 10% neutral buffered formalin for histological processing, stained with hematoxylin and counterstained with eosin for microscopic examination. Microscopically, the sections revealed a highly vascularised fibrous connective tissue with diffuse moderate fibroblast proliferations and infiltration of inflammatory cells, which were typically lympho-monocytic (Fig. 2). The number of mitotic figures was low, with no atypical division of the fibroblasts. The lympho-monocytic infiltration was consistent with inflammatory features of the tumour.

Fig. 1. Multiple pinkish masses of varying sizes on the lateral gum of the upper jaw, with multiple foci of grey patches. One of the masses almost covers half-length of the upper canine

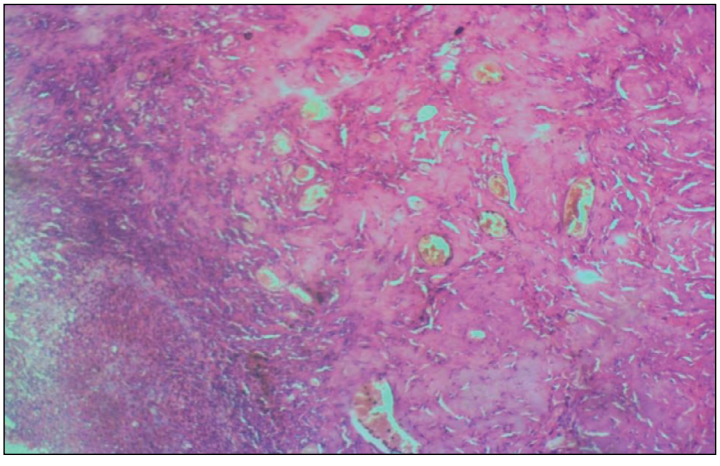

Fig. 2. Photomicrograph of the periodontal growth showing a connective tissue component, characteristically highly fibroblastic, highly cellular, and vascularised. HE ×100

DISCUSSION

This report describes gross and histopathological lesions of fibromatous epulis that presented as gingival masses and were characterised by numerous fibroblasts and marked cellular infiltrations. This is concomitant with an earlier report by Jakhar et al. (2015) that epulis is characterised by vascular gingival masses composed of mononuclear stromal cells and a large number of multinucleated cells with common areas of haemorrhages. The fibromatous epulis is also characterised by elongated strands of epithelial tissue that may be branching and it resembles odontogenic epithelium commonly seen in a tumour and also extending from the surface mucosa. This case is different from acanthomatous epulis due to non-infiltration of the growth into the local bony structure; it also differs from the ossifying epulis due to the soft nature of the mass and non-appearance or absence of osteoid (Woodward 2002). Epulides are relatively common in dogs but rare in cats. However, multiple epulides have been reported in cats where more than 50% of the cases occurred in cats younger than three years old but the average age of dogs affected with epulides is over five years of age (Stancu et al., 2012). This complements the present report, in which the age of the dog is five years. The mass is reportedly slow growing, which might be the reason the animal did not become anorexic. Although the lesion may be found in the lower jaw, it has a predilection for the maxilla rostral to the third premolar teeth (Aloua et al., 2021). This is consistent with the findings in this report. Regional lymph nodes can be carefully palpated for enlargement or asymmetry and cytological evaluation, if malignancy of oral cancer is suspected. However, it must be done with caution. Regional radiography, computed tomography (CT), or magnetic resonance imaging (MRI), if available, are important diagnostic tools, especially for the evaluation of bone invasion. Stancu et al. (2012) also opine that histopathological examination can be used to effectively determine the type of epulides, establish confirmatory diagnosis, and institute adequate therapy. Both surgical and chemotherapeutic interventions are correct measures to treat the condition. The use of immunohistochemistry is also an essential diagnostic measure to confirm the case of epulides in dogs. In addition to non-bone invasion, Gross and histopathological examinations led to the diagnosis of fibromatous epulis. Although this case is common in dogs and benign in nature, it is pertinent to distinguish it from other epulides that invade the bony structure and cause more severe damage.

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SUAUGUSIO ŠUNS PATINO FIBROMATOZINIS EPULIS: ATVEJO APRAŠYMAS

Santrauka

Penkerių metų burbulių (Boerboel) veislės šuniui įprastinės apžiūros ir konsultacijos metu buvo pastebėti nasrų pažeidimai. Sumažėjęs apetitas arba anoreksija nepasireiškė. Po bendrojo įvertinimo ir chirurginio darinio pašalinimo atliktas histopatologinis tyrimas. Nustatytas vaskuliarizuotas audinys su difuzine fibroblastų proliferacija ir ryškia uždegimine ląstelių infiltracija. Pastebėtas žemas mitozinis indeksas be netipiško neoplastinių ląstelių dalijimosi. Mononuklearinė ląstelių infiltracija atitiko naviko uždegiminius požymius. Atlikus bendruosius ir histopatologinius tyrimus be nekaulinės invazijos, nustatyta fibromatozinio epulio diagnozė.

Raktažodžiai: epulis, dantenos, burbulis (Boerboel), fibroblastai