

MASSIVELY ENLARGED CARNASSIAL TOOTH ABSCESS IN A SPITZ DOG

Jasmeet Singh, Prasanta Kumar Sika, Trilochan Sahu and Indramani Nath

Department of Veterinary Surgery & Radiology,
College of Veterinary Science & Animal Husbandry, OUAT, Bhubaneswar (Odisha).

Introduction

Canassial tooth abscess is a deep seated infection affecting the area surrounding the tooth root (periapical tissues) of the maxillary fourth molar tooth in canine patients. The condition is most commonly encountered in dogs above six years of age (Wright, 1939). This condition may be the result of periodontal disease, tooth fracture or as a result of retained root following tooth extraction. However, it can also be caused by bacteria that gain access to the teeth root, either through a deep periodontal pocket, via the pulp cavity of a fractured tooth or by being carried there by the bloodstream (Kealy and McAllister, 2000). Bacterial infection and the reaction of the host's white blood cells lead to abscess formation and alveolar bone destruction around the root tip. Over time the infection can travel through the bone of the upper jaw and break out either on the oral mucosa over the tooth or just beneath the skin under the eye. This opening may occasionally close, if left untreated but then reopens again as more abscess/infective material accumulates (Eisner, 2003).

Case History and Clinical Findings

A 7 year old spitz dog was presented

with the history of a large sized pus draining lesion near the left lower eyelid starting from medial to lateral canthus (Fig. 1). Anamnesis revealed that a chronic swelling developed at that site 1 month back which did not responded to antibiotics and analgesic therapy. The consultant veterinarian suspected it to be periorbital abscess and gave a stab incision 2 weeks back which revealed discharge of serosanguineous fluid from the affected site. However, the discharge eventually turned into purulent over the period of last few days leading to matting of eyelids and the surrounding hairs over the face region. The clinical examination of the patient revealed normal rectal temperature (102.4⁰F), heart rate (140 beats per min) and respiratory rate (20 breaths per min). Upon close examination of the oral cavity, severe alveolar periostitis with presence of thick dental tartar was noticed around the left carnassial tooth leading to loosening of the affected tooth. The dog was subjected to dental radiographic examination which revealed radiolucent periapical lesions around the roots of the left carnassial teeth. Hence, the case was confirmed to be a case of carnassial tooth abscess and surgical extraction of tooth was planned accordingly.



Fig. 1: Large sized pus draining lesion near the left eye

Surgical procedure

The animal was premedicated with atropine sulphate @ 0.04 mg/kg body wt. IM

followed 10 minutes later by xylazine hydrochloride @ 1 mg/ kg body wt. IM and subsequently ketamine hydrochloride @ 10 mg/kg body wt. IM. A venous port was established for administration of 5% Dextrose normal saline and incremental doses of ketamine hydrochloride during surgical procedure.

The dog was placed in right lateral recumbency with mouth being kept wide open with a mouth gag. The oral cavity was flushed with normal saline solution. The conventional exodontic method of tooth extraction as suggested by Dorn (1993) was carried out in the present case with 2 straight incisions taken on either side of the tooth to make gingival flaps. The gingival flaps were separated from the maxillary bone. Continuous swabbing of the site was done during the surgery as blood seepage was persistent throughout the surgical procedure. Finally tooth was completely removed with the help of tooth extraction forceps. A catheter was passed from the socket formed following tooth extraction and the abscess tract was irrigated with the mild hydrogen peroxide solution and then chlorhexidine solution. Adrenaline soaked cotton swab application over the cavity so formed after extraction was done for 5 minutes to control haemorrhage followed by suturing of the gingival flaps with simple interrupted sutures using 2-0 silk. Post operatively, broad spectrum antibiotic ceftriaxone @ 20mg/kg body weight IM for 5 days and analgesic meloxicam @ 0.5 mg/kg body weight IM for 3 days was administered to the patient. The owner was advised to give soft diet for a period of 7 days after surgery.

Result and Discussion

A chronic case of left carnassial tooth abscess which was misdiagnosed as a case of periorbital abscess was treated successfully in a spitz dog. Accumulation of dental tartar which is composed of organic matter, bacteria and minerals is commonly seen in geriatric dogs which in long standing cases cause bacteria to gain access to the root of the premolar leading to gingivitis and alveolar periostitis (Bharti *et al.*, 2008). Purulent alveolar periostitis is characteristically observed in carnivorous animals. The root of the 4th premolar tooth is

located in the maxillary sinus (antrum) hence leads to the condition known as 'pus in antrum' i.e. accumulation of the pus in the maxillary sinus. Progression of a carnassial tooth root abscess can cause the bone around it to dissolve, and a draining tract will eventually develop below the eye, as was observed in the present case. Usually, the abscess breaks through the skin just below the medial canthus of the eye (Bell, 1965). The clinical signs of abscessed teeth may range from unilateral swelling of the maxilla on the affected side to draining tracts in the oral mucosa or skin (Wallach and Boever, 1983). However, the abscess in the present case was wide spread from medial to lateral canthus eye which might be due to delay in diagnosis and treatment of the underlying disease condition. The treatment involves removal of the diseased premolar and establishing the drainage to the abscess (Neuman, 1974).

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