

Canine Fossa Abscess in Pediatric: Case Report

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ABSTRACT: Odontogenic infections are a major reason for consultation in dental practice especially in pediatric population. It comprises various clinical conditions, whose importance varies depending on their potential severity. Pediatric patients with active infections pose additional challenges and difficult to manage. Insufficiency or late treatment may lead to serious and possibly life-threatening complications. This case report is to discuss the management of treatment in canine fossa abscess in pediatric patient. A 3 years-old male patient referred to the Oral and Maxillofacial Surgery Clinic with complaints of swelling in his left cheek since 3 days ago. Physical examination showed fluctuant swelling in left infraorbital region. The patient was diagnosed with canine fossa abscess. The treatment was given are intravenous antibiotics, multiple tooth extraction and drainage incision under general anesthesia. Early identification, proper intravenous antibiotics and elimination of source of infection are the keys to the treatment.

KEYWORDS: canine fossa space abscess, life-threatening complications, intravenous antibiotic, odontogenic infection, tooth extraction

I. INTRODUCTION

Odontogenic infections are among the most common infections of the oral cavity. These infections arise from dental caries, failed conservative or root canal treatment, pericoronitis, and periodontal disease [1,2]. Dental caries is one of the most common dental problems affecting children [3]. The infection derived from a tooth and may spread into adjacent or distant regions, lead to the purulent exudates formation in soft tissues [1]. Main symptoms include pain, swelling, erythema, trismus, dysphagia, and regional lymphadenopathy [2,4]. The most important factors of the odontogenic infection depends on the virulence of the microorganisms, host resistance factors, and the regional anatomy [5].

The canine space is located between the levator anguli oris muscles inferiorly, and the levator labii superioris muscle superiorly. Canine space abscess can cause life-threatening complications, especially if the spread to the cranium through the external angle of the vein. Clinical presentation of canine fossa abscess is swelling that removes the nasolabial folds, the space near the lower eyelid. The success of treatment requires rapid assessment and initiation of combined medical and surgical management [1,6].

II. PURPOSE

This case report is to discuss the management of treatment in canine fossa abscess in pediatric patient.

III. CASE REPORT

A three years old male was referred to Oral and Maxillofacial Surgery Clinic for oral examination and possible treatment for pain and swelling on the left cheek. The parents reported that the patient had visited dentist before 3 days and was prescribed antibiotics. There was no relief in the pain and swelling. Patient reported difficulty in chewing. On general physical examination, the patient had stable vital signs. Examination showed asymmetry of face with palpable soft and fluctuant swelling in left buccal region (Figure 1). There are caries in his teeth and oral hygiene was poor. Diagnosis Canine Fossa Abscess was made to this patient.

Since the patient had already taken medication with no signs of relief, it was decided to perform incision and drainage of the abscess from the labial vestibule in canine region. Under aseptic conditions, incision along 1 cm was made and approximately 2 ml of the pus was drained, then the canine fossa region gently explored using blunt instrument to break down loculi of pus and improve drainage (Figure 2). The pus was sent for microorganism culture (Figure 3). During hospitalization, patient was given intravenous antibiotic Ceftriaxone 250 mg/12 hours, analgesic Metamizole 250 mg/8 hours, and multivitamin. Post operatively healing was uneventful. At follow up examination patient's clinical outcome was found to be satisfactory (Figure 4).

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Figure 1. Extraoral appearance showed a swelling in left buccal



Figure 2. Incision and pus drainage



Figure 3. Sample of pus and carious teeth



Figure 4. Clinical appearance 1 week after treatment showed facial swelling was decreased

IV. CASE DISCUSSION

Odontogenic infections are generally polymicrobial in nature, with anaerobes and facultative anaerobes counting for 59 percent 75 percent of cases. The most common facultative anaerobes involve the viridians and an anginosus group of streptococci.

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The most common groups of anaerobic bacteria involved are streptococci, *Fusobacterium*, *Bacteroides*, *Prevotella*, and *Porphyromonas* species. Odontogenic infections arise from the untreated necrotic pulpal tissue, periodontal tissues or pericoronal of a tooth. Failure to manage odontogenic infections can lead to their spread, which can cause potentially fatal conditions. In pediatric patient as their immature immune system and lower cardiopulmonary reserve make them susceptible to severe infection [7].

Radiological examination was not performed in this case because pediatric patients are not possible or not cooperative. Dental radiograph is usually not necessary even this procedure aims to identify a potential odontogenic source. In several cases deep fascial space infection, practitioners can perform computed tomography (CT) with contrast to determine the extent of infection. Treatment of canine fossa abscess aims to eradicating the source of infection include incision and drainage of abscess, extraction of causative teeth, and intravenous antibiotics [8]. In our case, patient were treated under general anesthesia and carried out multiple primary tooth extraction including left upper canine, first molar, and also other radices. Intraoral incision and pus drainage were sufficient to achieve resolution of the infection. The incision is placed on buccal vestibulum to avoid facial scar [1].

Several antibiotics are indicated for odontogenic infections. Penicillin has been considered as first-line drug for odontogenic infections. Ideally, antibiotics given are suitable for the microorganisms involved, but bacteria culture and sensitivity test take a long time. Therefore, empiric antibiotic therapy should be administered when patient was hospitalized. Empiric antibiotics should cover anaerobes based on microbiology research and literature. Combination of cephalosporin and metronidazole can be used to treat this infection. In this case, amoxicillin was not chosen as empiric antibiotic because amoxicillin was the antimicroba that was most used in health facilities and communities in Indonesia. Basic national health research in Indonesia showed that around 10% of communities kept antibiotics in their homes, and 86,1% obtained these antibiotics without a doctor's prescription [9]. Ceftriaxone was chosen to treat odontogenic infection, because it is very effective against certain bacteria, cost effective and have a minor side effect [1]. Previous studies also reported that cephalosporins have better antimicrobial activity as compared with other antibiotics [10].

V. CONCLUSIONS

Untreated dental caries in maxillary primary tooth can establish canine fossa abscess in pediatrics. The proper management such as early identification, proper intravenous antibiotics and elimination of source of infection are the keys to the treatment.

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