



Bilateral infratemporal spaces abscess following removal of suspension wires: a case report

Javad Yazdani^a, Ali Mortazavi^a, Mohammadali Ghavimi^{a*}

^aDepartment of Oral and Maxillofacial Surgery, Faculty of Dentistry, Tabriz University of Medical Sciences, Tabriz, Iran

ARTICLE INFO	ABSTRACT
<p>Article Type: Case Report</p> <p>Received: 9 Mar 2015 Revised: 20 Apr 2015 Accepted: 1 May 2015</p> <p><i>*Corresponding author:</i> Mohammadali Ghavimi Department of Oral and Maxillofacial Surgery, Faculty of dentistry, Tabriz University of Medical Sciences, Tabriz, Iran</p> <p>Tel: +98-411-3355965 Fax: +98-411-3346977 Email: m_ghavimi@yahoo.com</p>	<p>The infratemporal fossa is an anatomic space of great importance in the head. Abscesses of this space are rare but potentially life threatening. Regarding the proximity of some important anatomical features of the head, dealing with infratemporal space infection needs great consideration both in examination and surgical practice.</p> <p>In this case report, infratemporal space abscess formation following the removal of zygomatic arch suspension wire in a healthy, male, young patient and its treatment protocol are presented.</p> <p>Keywords: Infratemporal, Abscess, Maxillofacial infection</p>

Introduction

The infratemporal fossa is an anatomic space of great importance in the head [1-3]. Abscesses of this space are rare but potentially life threatening. Regarding the proximity of some important anatomical features of the head, dealing with infratemporal space infection needs great consideration both in examination and surgical practice [4]. Isolated infratemporal fossa abscess formation is a relatively rare condition. Infratemporal fossa abscess usually occur following the maxillofacial tuberculosis, maxillary sinusitis, maxillary fracture or pretonsillar infection; also has reported after maxillary third molar extraction and dental injection [5-7]. In this case report, infratemporal space abscess formation following the removal of zygomatic arch suspension wire in a healthy, male, young patient and its treatment protocol are presented.

Case Report

A 20-year-old ASA I male patient with the

chief complaint of severe swelling of bilateral temporal and left suborbital regions was admitted to the Emergency Department of Imam Reza Hospital. The patient's clinical findings, included fever (38.5 °C in the axillary region), severe trismus (maximum jaw opening 5mm), lymphadenopathy in the sub-mandibular region, and headache (Fig.1).

The patient's history revealed a car accident two months ago which had led to Le Fort II fracture, and as a result, he had undergone maxillary disimpaction and bilateral wire suspension from zygomatic arches. Two days following the removal of suspension wires swelling was observed. The patient had no history of systemic problems but smoking for three years. Paraclinical evaluation revealed a white blood cell count of 24,500 /mm³ which reflected the severity of his situation. The patient was taken to the operating room and under the endoscopic nasal intubation and general anaesthesia; bilateral Gilles and intraoral incisions were carried out, and after



Fig. 1. Severe bilateral temporal space swelling.

reaching the infratemporal space plenty of pus drained. The drain was kept in place for four days for ongoing pus drainage. Empirical intravenous antibiotic therapy was started with ceftriaxone and metronidazole which were subsequently changed to ampicillin and clindamycin after the results of microbial culture were available. Following the treatment procedure, the patient's systemic situation improved gradually and was discharged on the fifth post-operative day. The patient was reviewed in the outpatient clinic 3, 10, 20 days later. Trismus lasted approximately for 3 weeks. Eventually, the patient's recovery was successful and there was no recurrence of infection.

Discussion

The infratemporal fossa is an irregularly shaped space below the greater wing of the sphenoid bone (containing the foramen ovale), lateral to the ramus of the mandible and the gap between the zygomatic arch and temporal bone. The lateral pterygoid plate forms the medial margin while the maxilla forms the medial aspect of the space. The infratemporal fossa contains the temporalis muscle, medial and lateral pterygoid muscles, the pterygoid plexus of veins, the maxillary artery and its branches, and the chorda tympani. Infection of the infratemporal and temporal fossae has been attributed to several causes. Odontologically related infections have been most commonly reported. Both maxillary and mandibular third molar infections have been implicated. Other sources of infections described in these masticatory spaces include dental injections, maxillary sinus wall fracture and

haematogenous spread [8].

Different manifestation might be observed depending on the specific anatomical feature involved in the infection including pain, fever, trismus in acute infections and trismus with swelling in chronic infections and even neurosensory deficit [9-11]. Trismus can be the diagnostic hallmark to distinguish infratemporal space infection from other conditions with facial swelling. The precise information of imaging modalities especially CT scan will allow for timely and targeted diagnosis and treatment. CT scan is known as the only way to detect characteristic signs such as lucency and gas bubbles definitely [12]. The treatment should focus on prevention of spreading infection with possible life-threatening complications. As with any space occupying abscess, the routine treatment required is drainage and medical management with appropriate antibiotics and hydration as required. As a result of potential delay in the diagnosis and definitive treatment, infection originating in the infratemporal fossa can spread upward to the base of skull or downwards into the deep tissue spaces of the neck [11]. The treatment included incision and drainage via intraoral and extraoral approaches [1]. In this case Gillies incision and intraoral approach were used.

Suspension wires are being used in the treatment of midface fractures. These wires may extend from the zygomatic arch or frontal bone through the masticatory space into the oral cavity to attach to arch bars [13]. In the presented case, bilateral infratemporal abscess occurred following the removal of suspension wires from zygomatic arches in a young, healthy patient. Reason might include pushing the intraoral bacterial flora to the infratemporal space while removing the wires. Based on our literature reviews only one case has been reported about abscess formation at the masticatory space following removal of suspension wires [13].

Conclusion

Even though it is a very rare condition, infratemporal fossa abscess is a dangerous infection which needs definite diagnosis, necessary surgical intervention and antibiotic therapy and patient monitoring.

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