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CASE REPORT:

TEMPORAL, BUCCAL AND MASTICATOR SPACE INFECTIONS IN AN IMMUNOCOMPROMISED PATIENT: REPORT ON A RARE CASE

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ABSTRACT:

"AIDS" is a term used to describe the various clinical syndromes, specific opportunistic infections or malignancies that occur with HIV infection. Oral manifestations are common in people with HIV infection. Oral lesions may be due to decline in immune function. Hence patients with AIDS are subjected to recurrent, life threatening opportunistic infection. Here is a case report of a 70 year old female who presented with right buccal, masticator and submandibular space infection. A routine blood test reveals seropositivity positive for HIV infection. She was treated with antibiotics and underwent an incision and drainage following hospitalization.

Keywords: Masticator, Submandibular space infection, Opportunistic infection

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INTRODUCTION:

AIDS emerged as a global killer and also increasingly a disease of the poor [1]. Drug users, homosexuals/bisexual contacts, heterosexual contacts, multiple partners, receipt of blood Transmission or blood products, perinatal transmission and in health care settings are the common source for the spread of HIV infections. For the dental practitioner, the significance of intraoral manifestations associated with HIV disease cannot be overstated. Many initial cyclical signs of HIV

infection and AIDS occur in the oral cavity and may serve as markers for early immune deterioration and disease progression [2].

AIDS is associated with several immunological diseases like T-lymphocyte deficiency, B-lymphocyte defects, and macrophage and neutrophil dysfunctions. Individuals with AIDS may have decreased salivary lactoferrin and immunoglobulin A production, which may account for the high incidence of oral infection. With the decline in immune function, individuals with AIDS are subjected to recurrent, life threatening opportunistic infections [3].

Pyogenic orofacial infections usually originate in an odontogenic location [4]. The majority of these odontogenic infections are confined to local lesions, while in some cases they spread from the affected tooth along the anatomic spaces and occasionally advance to a site far from the initial infection. Significant morbidity or even death may occur in the cases that advance into the retropharyngeal, mediastinal, intracranial or intraorbital spaces [5].

This paper highlights a case of an HIV infected female who presented with right Buccal, masticator, and submandibular space infection.

CASE HISTORY:

A 70-year –old female patient presented with a history of pain and swelling in the right side of the face associated with inability to open her mouth since one month. The swelling gradually increased over time and the patient had sought treatment from a district clinic and was prescribed a week's course of antibiotics.

On examination, there was a large diffuse swelling over the right, extending from midline of the scalp to inferiorly till submandibular region. It was soft and tender to touch with local rise of temperature and fluctuation present (Figure1). Intraoral examination reveals marked trismus with mouth opening about a half finger-breadth. Generalised mobility of teeth present due to severe periodontal infection. Grade III Mobility seen in lower right molars with vestibular obliteration and tenderness present.

Extrinsic stains present over the teeth surface due to excessive tobacco chewing habit along with severe halitosis due to poor oral hygiene (Figure 2). Bilateral Submandibular and cervical lymph nodes were mobile, tender on palpation. Patient was advised to get routine blood examination. Routine Blood report revealed that patient is positive for HIV infection.

Patient was referred for surgical management. Patient did not turn up for the further follow up treatment procedures.

Fig. 1: Showing Right Temporal space infection

Fig 2: Restricted mouth opening due to involvement of Masticatory space

DISCUSSION:

AIDS patients are subject to a variety of opportunistic bacterial infections in the oral cavity. *P. gingivalis, P. intermedia, F. nucleatum, A. actinomycetemcomitans, W. recta, E. corrodens, P. micros, Capnocytophaga spp.* are the commonly found bacterial species in HIV infection [6].

Infections from the body of the mandible pass more through the relatively thinner lingual plate into the medial spaces while that from the body of the maxilla pass more via the relative thinner buccal plate into the lateral spaces. In addition, the ramus of the mandible serves as attachment on the outer side for masseter muscle which separates the submasseteric and supramasseteric spaces and on the inner aspect; there is attachment of medial pterygoid muscle which separates the pterygomandibular and lateral pharyngeal spaces. Infections can track upwards into the infratemporal fossa between the attachments of the lateral pterygoid and temporalis muscle and into the supratemporal fossa leading to scalp abscess [7].

The masticator space is a distinct deep facial space, bounded by the superficial layer of the deep cervical fascia. It contains the ramus and posterior body of the mandible, and the four muscles of mastication, including the medial, lateral pterygoid muscle, temporal muscle and masseter muscle. It is commonly known that the contracture of medial and lateral pterygoid muscle in response to inflammation causes trismus and pain of Temporomandibular Joint [8].

The temporal space is posterior and superior to the masseteric and pterygomandibular spaces. Bounded laterally by the temporalis fascia and medially by the skull, it is divided into two portions by the temporalis muscle. Swelling is

evident over the temporal area, posterior from the lateral aspect of the lateral orbital rim. Trismus is always a feature of this infection, caused by involvement of the temporalis muscle [3]. The buccal space contains the buccal pad of fat, Stenson's duct and facial artery.

Clinically marked cheek swelling occurs. Submandibular space infection are commonly seen because of odontogenic infections by the second and third molar teeth as their root apices lie inferior to the mylohyoid line of muscle attachment [3].

Oral disease occurs disproportionately among individuals from low socioeconomic levels and among those who are most vulnerable because of poor general health. This is associated with lack of access to care and lower education levels. Improving oral health within these communities will require changes at a number of levels [9]. Oral health is integral to general health.
Oral manifestations are common in people with HIV infection due to decline in immune function [10, 11].

For dental practitioners, the medical evaluation of patients with HIV is three-tiered. They are: Complications that may arise during dental therapy secondary to a patient's immunologic, haemostasis and pharmacotherapeutic status; Medical conditions that may directly interfere with provision of dental procedures; Patient's prognosis for survival;

Dental providers need to continue to render dental care to all patients, regardless of their social or religious background or sexual orientation. The provision of dental care for HIV infected individuals is similar to that of non-infectious patients.

The basic principles in treating any space infection are antibiotic therapy, removal of the source of infection and incision and drainage of the infected space and airway maintenance among other forms of supportive care [2].

CONCLUSION:

Controlling a focal infection within the oral cavity may eliminate adverse consequences such as systemic infections. Early and aggressive management can prevent major complications.

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