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## Acute serous lymphadenitis: A clinical case

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### Abstract

The aim of this case report is to review a case of a patients with acute serous lymphadenitis. Both were symptomatic and presence of pathology clinically and radio graphically. Bimanual examination of the right intraoral site of the mandible reveals mucosal hyperaemia with firm consistency. The mandibular second molar (tooth 47) was sensitive to palpation and percussion. The treatment include intraoral incision, drainage, tooth removal (tooth 47) and antibiotic therapy. The postoperative period for both cases was without complications.

**Keywords:** Serous lymphadenitis, tooth removal, treatment

### 1. Introduction

The major lymph nodes of the head and neck area should be palpated with the patient in an upright position. Findings which should be noted in the patient record include enlarged palpable nodes, fixed nodes, tender nodes and whether the palpable nodes are single or present in groups. Single or multiple non-tender, and fixed nodes are very suspicious for malignancy. Groups of tender nodes usually occur in conjunction with some type of acute infection. Occasionally nodes will remain enlarged and palpable after an infection. This is a relatively common occurrence especially within the submandibular group of lymph nodes. When examined, these nodes should be small (less than 1 cm), non-tender and mobile<sup>[1]</sup>.

According to Atanasov D.<sup>[2]</sup> lymph inflammation is divided into two main types: acute and chronic. Depending on the composition of exudate, acute inflammation is divided into the following types: serous and purulent.

Acute serous lymphadenitis - in this form there is an inflammation of the lymph nodes, but no pus. Acute serous lymphadenitis is initial stage of development of the the inflammatory process in lymph nodes. Start with discomfort, stretching of the tissues, dull pain, difficulty swallowing and head movements. The lymph nodes are tenderness, enlarged, mobile with tight-elastic consistency, round and oval shape. An asymmetrical face usually looks and skin over swelling is without changes. The general condition is not affected and less affected, but in many cases can observe high temperature (38 °C). By effective treatment of basic disease caused lymphadenitis, inflammation process of lymph nodes undergo a back development: lymph nodes decrease in size, become soft, reduce pain. 2-week later achieve normal shape and size and by physical exam are not palpable. Acute serous lymphadenitis treatment includes treatment of basic disease caused inflammation process of lymph nodes.

The major complaints of acute serous odontogenic lymphadenitis are: appearance movable, painful "ball" during the palpation in the certain area. The child would note that it was tooth ache before of the lymph node enlargement. Clinical course: General condition without significant changes: minimal rising of the body temperature, insignificant intoxication. During examination: spherical lump which is painful during palpation. Mobility of the lump could be limited and it would be the sign of spreading of the process to the surrounding tissues. The skin above the lymph node is without changes. There is no enlargement of the lymph node from the other site. During oral cavity examination the causative tooth with positive percussion can be revealed. In most cases the diagnosis of periapical inflammation is easily determined. Methodical Guides on Pediatric Dentistry (Surgery) for the 4th -year students of dental faculty<sup>[3]</sup>.

Periapical infection from a mandibular second molar may spread by direct extension to the submandibular space.

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According to Ghom AG, Ghom SA. [4] Due to the position of second molar in the alveolar process, there are 50% chances of perforation of the infection either buccally and lingually. There are equal chances of the root apices to be either above or below the attachments of the mylohyoid or buccinator. Hence there are 4 possible sites for localization of infection arising from these teeth:

1. On the buccal aspect, abscess may, form in the buccal vestibule
2. It may appear in the buccal space
3. On the lingual surface, exit of infection above mylohyoid will result in sublingual abscess
4. Perforation below the mylohyoid muscle results in submandibular space involvement

According to Bagheri SC. [5] surgical establishment of drainage, along with removal of the source of infection, is the most important treatment for vestibular and buccal space infections. Antibiotic therapy is considered beneficial and should be initiated to aid resolution of the infection.

## 2. Case report

A 49-year-old male was referred to the Department of Oral Surgery in Faculty of Dental Medicine, Plovdiv by his general dental practitioner with a two days a history of a progressively increasing swelling in the right submandibular region. Two weeks earlier, he noticed that broken part of lower second molar. There was an acute diffuse pain in the right lower second molar with development of swelling in the buccal

vestibule. The patient decide to take antibiotic, but swelling persisted. There is no history of limited mouth opening, visual disturbances, difficulty breathing (all of them are signs of more facial space involvement).

### 2.1 Examination

**2.1.1 General:** The patient was a well-developed male in moderate distress.

**2.1.2 Maxillofacial:** Significant redness of the skin and right-side submandibular oedema extending from inferior border of the mandible to the level of the neck (Fig 1). The swelling is firm on palpation without draining sinus tract formation. There is enlarged submandibular lymph nodes with tenderness.

**2.1.3 Intraoral:** The mouth opening is approximately 45 mm (limited mouth opening is not seen in this case, because it does not involve the muscles of mastication). Bimanual examination of the right intraoral site of the mandible reveals mucosal hyperaemia with firm consistency (Fig 2). The mandibular second molar (tooth 47) was sensitive to palpation and percussion. The floor of the mouth is examined using direct and indirect vision followed by bimanual palpation of the entire area. The tissues were appear moist and very vascular and soft on palpation. We observed rough, lobular, and coral to light pink tissue of oropharynx, the uvula area is normal.



Fig 1: Enlarge submandibular lymph nodes



Fig 2: Intraoral swelling

**2.2 Radiographic images:** The orthopantomography evaluate odontogenic etiology of infections on different spaces. This images can reveal osseous anatomy of the maxillofacial region. For the patient postoperative orthopantomography show a normal healing process (Fig 3).



Fig 3: Postoperative orthopantomography

**2.3 Management:** The treatment include intraoral incision, drainage, tooth removal (tooth 47) and antibiotic therapy. The main principles should be applied when draining an infection: the incision should be long as a necessary and short as a possible; anatomic placement of an incision should be allow drainage by gravity.

The incision placed intraorally through the mucosa under mandibular nerve block and terminal infiltration anesthesia and the opening was widened with a straight hemostatic instrument (Fig 4). The incision wound was irrigated with sterile saline solution. A course of antibiotic (Augmentin 625 mg - Amoxicillin plus clavulanic acid) was given for seven days. The patient was seen the next day and then 7 days later. We observed back development of infection: lymph nodes with normal size and normal skin color in submandibular area (Fig 5).

## 3. Discussion

In the current case 2 cm size incision was made intraorally to

the depth of the lower vestibule, allowing drainage collection of pus. In this case tooth extraction eliminate source of infection. Extraction allows drainage of the infection. Our clinical case is similar to clinical case described by Baghery SC. [5] According to Baghery SC. [5] drainage allows removal of purulent material, increase tissue perfusion, and therefore enhances the delivery of both oxygen and antibiotics. Incision and drainage is one of the oldest and most effective surgical procedures. Abscesses should be drained when fluctuant, before spontaneous rupture and drainage.

Singh PD. [6] present a lesion in the submandibular triangle, late onset of the disease, purulent discharge and presence of carious tooth led to the suspicion of dental cause. Orthopantomogram is essential for correct diagnosis. The management include curetting the tract and treatment for the

dental infections – extraction of the lower second molar tooth. Nonmalignant oedema in the submandibular region can be caused by viral infection such as mumps, bacterial sialadenitis, and Sjögren syndrome. Submandibular lymphadenopathy may also result from infected teeth, infections of upper respiratory track, sinuses and tonsils. The neoplastic growths in the submandibular area may include in most of the case tumors of the submandibular gland, the tail of the parotid gland, which could be either benign in most of the cases and malignant in rare cases. The greatest cause of asymmetric submandibular enlargement, especially in older people than 40 years old is the metastatic disease, the physician should always first seek to eliminate a primary site in the head and neck region as well as the other body parts. Submandibular oedema may cause a diagnostic dilemma to the clinician [7].



Fig 4: Intraoral incision



Fig 5: Decrease lymph nodes

#### 4. Conclusion

In conclusion on the basis of literature acute serous lymphadenitis treatment includes treatment of basic disease caused inflammation process of lymph nodes. A good outcome includes recovery without complications.

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