

## JUGAL MASS: AN UNUSUAL PRESENTATION OF CERVICOFACIAL ACTINOMYCOSIS

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### ABSTRACT

Cervicofacial actinomycosis is a chronic disease, rarely seen, characterized by abscess formation and tissue fibrosis. It can mimic a number of other conditions, particularly malignancy and granulomatous disease, and should be included in the differential diagnosis of any soft tissue swelling in the head and neck. The most frequent clinical form is cervicofacial actinomycosis. In the present study, one case of Actinomycosis is discussed that was initially diagnosed as abscess and in the second time as malignant tumors. Finally, surgical excision of the mass with histopathological exam was the last essential step to make a definitive diagnosis.

**Keywords:** Actinomycosis, Jugal, mass, Cervicofacial, Actinomyces.

### INTRODUCTION

Actinomycosis is a chronic infectious disease and rare granulomatous purulent. Is it caused by Gram-positive bacteria, microaerophilic bacilli of the genus Actinomyces. Is it non-spore forming, anaerobic non acid-pleomorphic. In actinomycetes are often isolated from the oral cavity, digestive tube and the female genital tract (OOSTMAN O ET AL. 2005). The clinical form is actinomycosis Most Frequent Neck (MILLER M ET AL., 1998).

Whether seen Diagnosis of actinomycosis is usually reconnu evil, Real Prevalence of infection should be higher this. However, the diagnosis of disease and the diagnostic differtial many infectious and noninfectious diseases are very difficult. For consistent, actinomycosis should be included IN differential diagnosis Weighing in soft tissues of the head and neck region. We report the unusual case UN actinomycosis and The Review of cervical actinomycosis In literature With A Special attention to the clinical presentation and results (OOSTMAN O ET AL., 2005).

## CASE REPORT

A 23-year-old young woman, in good health, with a 1 month's history of a firm mass in the left jugal region which slowly increased over. She did not present fever but, sometimes, moderate pain. About four months earlier, she had experienced a dental extraction. She had been given several oral antibiotics and anti-inflammatory drugs during the course of her swelling by her dentist. There was no history of any chronic disease, any recent or remote surgical procedure, or of any bite, also there was no particular finding in the patient's family history.

On physical examination, the patient was well-nourished, her vital signs were normal, the cardiovascular, respiratory, and abdominal examinations were unremarkable. There was a limited soft to firm mass with necrotic skin surface over, in the left cheek which was intact inside. The mass was neither mobile on palpation. There were no fluctuations, fistula, or bruit and there was no palpable lymphadenopathy (fig.1).



**Figure 1: Left jugal mass with skin necrosis**

The oral hygiene was poor with carious teeth, there was no trismus, a flexible fiberoptic examination, was normal.

Routine blood tests and Panoramic dental X-ray were normal (fig.2).



**Figure 2: Panoramic dental X-ray**

A computed tomography (CT) scan of the head and neck revealed an expansive thickening, infiltration of soft tissue left cheek, seat of an air bubble, without individualization pertuit to the skin or collection, absence of lymphadenopathy, submandibular and parotid glands were normal (fig.3-4).



**Figures 3: CT scan of the neck showed bubble inside the mass**



**Figures 4: CT scan of the head showed bubble inside the mass**

Firstly a diagnosis of cellulitis was strongly suspect, the patient was, therefore, admitted to our ENT Department, she then received treatment with intravenous (iv) Amoxicillinum + Acidum clavulanicum 1 g + 125 mg x 3/day and Betamethasone iv 4 mg/2 ml/day without success. Within one week, the mass and skin necrosis increased rapidly in size, the patient, therefore, underwent surgical excision of the mass, the histopathological examination of which showed not specific chronic inflammation. A specimen submitted to the Parasitology-Mycology Laboratory revealed the presence of filamentous bacteria Gram positive.

In the laboratory evaluation; Hepatitis B, hepatitis C, VDRL and HIV results were normal. X-ray of the chest and abdominal ultrasonographic evaluation that performed due to evaluation of abdominal actinomycosis was unremarkable. In conclusion, she was diagnosed as cervicofacial actinomycosis by clinical signs and parasitology-mycology examination. The abdominal and thoracic types of disease were not detected. Penicillin G 20 M/day treatment was administered for four weeks, but the patient developed side effects type hematuria, then, the treatment was switched by Doxymicine for 6 months with a good clinical course (fig.5).



**Figure 5: clinical aspect after treatment**

## **DISCUSSION**

Actinomycosis is a chronic bacterial infection attributed to *Actinomyces* spp., most commonly *Actinomyces israeli* (Schaal KP et al. 1992). This Gram-positive, anaerobic organism is a normal inhabitant of the human oropharynx, gastrointestinal tract, and female genital tract (Peabody J et al. 1957). Actinomycetes are usually non-virulent in nature, but a disruption of the protective mucosal barrier, and alteration of the resident microbial flora play a crucial role in infection (Pulverer G et al. 2003). Infections most commonly occur in the cervicofacial, abdominopelvic, and thoracic regions.

Actinomycosis is often difficult to diagnose as it can mimic numerous infectious such as tuberculosis or a fungal infection and noninfectious diseases such as malignant neoplasm of cervicofacial area (Pulverer G et al. 2003). Cervicofacial actinomycosis, also known as lumpy jaw, is the most common variant encountered and accounts for 55 percent of cases (Russo TA et al. 2000). Poor dental hygiene, dental disease, and dental procedures are common predisposing factors. Usually follows dental manipulation or trauma to the mouth, but can occur spontaneously. Common presenting features include fever and chronic painless or painful soft tissue swelling around the mandible. Lesions may develop a firm woody consistency that often leads to a misdiagnosis of malignancy as occurred in our patient. Regional lymphadenopathy is typically absent until later stages. Infection may extend into local structures such as bone (periostitis and osteomyelitis) and muscle (Wong VK et al.2011).

Actinomycosis can be difficult to diagnose in its early stages. Gram-positive filamentous organisms and 'sulphur granules' on histological examination are strongly supportive of a diagnosis of actinomycosis. A species-specific fluorescent antibody allows rapid identification by direct staining, even after fixation in formalin. Direct isolation of the organism from a clinical specimen or from 'sulphur granules' is necessary for a definitive diagnosis. However, the failure rate of isolation is high (Hotchi M et al. 1972, Peabody JW Jr et al. 1960). Our patient with underwent surgical excision of lesion due to differential diagnosis of cervicofacial mass was diagnosed cervicofacial actinomycosis by parasitological examination.

Conventional therapy for actinomycosis is high-dose intravenous penicillin G for 4-6 weeks, followed by oral penicillin, amoxicillin, erythromycin, clindamycin, doxycycline or tetracycline for a period of 6-12 months (Pickering LK et al. 2006). The risk of actinomyces developing penicillin resistance is low and shorter courses of treatment may be sufficient (Pulverer G et al. 2003). Surgical intervention may be necessary adjunct to antibiotic treatment. Complete recovery is expected in 90% of patients with cervicofacial actinomycosis. In our case, the amoxicillin treatment was started for 12 weeks after the excision of mass.

## CONCLUSION

As this case demonstrated, infection with Actinomycosis of the head and neck represents, among neck masses, an interesting disease, on account of the difficulties involved in the diagnosis. A comparison between clinical and microbiologic findings avoids serious errors in the differential diagnosis, and any soft tissue mass or swelling on the cervicofacial area should be investigated for cervicofacial actinomycosis.

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## REFERENCES

- Hotchi M, Schwartz J. Characterization of actinomycotic granules by architecture and staining methods. *Arch Pathol* 1972; 93:392-400.
- Miller M, Haddad AJ. Cervicofacial actinomycosis. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod.*1998; 85: 496-508.
- Oostman O, Smego RA. Cervicofacial Actinomycosis: Diagnosis and Management. *Curr Infect Dis Rep.* 2005; 7: 170-4.
- Peabody J, Seabury J. Actinomycosis and nocardiosis. *J Chronic Dis* 1957;5:374- 403.
- Peabody JW Jr, Seabury JH. Actinomycosis and nocardiosis:a review of basic differences in therapy. *Am J Med* 1960;28:99-115.
- Pickering LK, Baker CJ, Long SS, McMillan JA, eds. 2006 Red Book: Report of the committee on Infectious Diseases. 27 th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2006: 201-2.
- Pulverer G, Schutt-Gerowitt H, Schaal KP. Human cervicofacial actinomycoses: microbiological Data for 1997 cases. *Clin Infect Dis* 2003; 37: 490-7.
- Pulverer G, Schutt-Gerowitt H, Schaal KP. Human cervicofacial actinomycoses: microbiological Data for 1997 cases. *Clin Infect Dis* 2003; 37: 490-7.
- Russo TA. Agents of actinomycosis. In:Mandell GL, Bennett JE, Dolin R, eds. *Principals and practice of infectious diseases.* 5th ed. Philadelphia: Churchill Livingstone, 2000:2645-54.
- Schaal KP, Lee HJ. Actinomycete infections in humans-a review. *Gene* 1992; 115:201-11.
- Wong VK, Turmezei TD, Weston VC; Actinomycosis. *BMJ.* 2011 Oct 11;343:d6099.