



## **Actinomycosis of Tonsil Mimicking like a Malignancy in a 50 year old lady**

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### **Abstract**

We report here in an unusual case of actinomycosis of tonsil with unilateral hypertrophy mimicking like a malignant neoplasm. A 50 year old lady presented with a history of pain and difficulty during deglutition of 2 months duration. On examination there is tonsillar mass lesion with inflammation. Clinically a differential diagnosis of malignancy and granulomatous inflammation was given. She underwent elective tonsillectomy. Histopathological examination of the specimen revealed actinomycotic colonies in tonsil. Actinomycosis rarely causes tonsillar hypertrophy which mimics a malignancy. So actinomycotic infection should be considered in the differential diagnosis of oropharyngeal lumps to avoid unnecessary surgical trauma to the patients since actinomycosis can be effectively cured by longterm antibiotics.

**Key-words:** Actinomycosis, Tonsil, Pseudo Neoplasm, Rare case.

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### **Introduction**

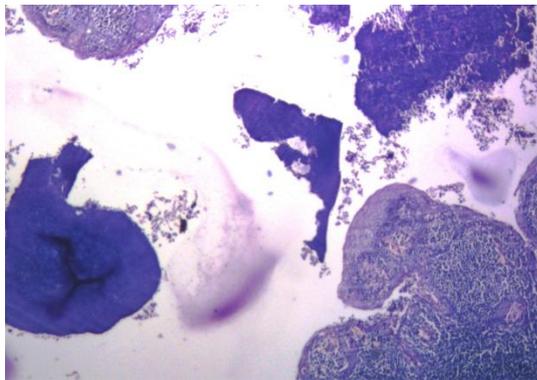
Actinomycosis is a chronic slowly progressive infection caused by gram positive anaerobic bacteria, *Actinomyces israelii* of the genus actinomyces [1]. Actinomyces with filamentous appearance has been described

known to involve the virtually every anatomic site [2]. Tonsillar actinomycosis is a rare inflammatory disease characterised by varied presentation and a propensity to mimic other diseases like mandibular osteomyelitis and malignant neoplasm [3,4].

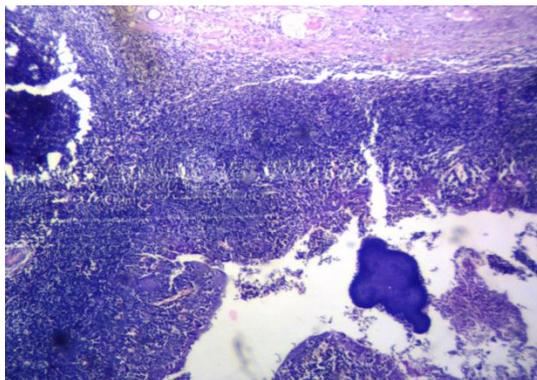
### **Case report**

A 50 year old lady presented with a two month history of pain and difficulty during deglutition. On examination there is a mass lesion in tonsil with inflammation. Based on her age, clinical signs and symptoms, size of the growth, a diagnosis of malignancy was made. All the other basic investigations were normal. She underwent elective tonsillectomy. Gross examination grey white soft tissue mass of size 5x5 cm. Histopathological examination of the specimen revealed actinomycotic colonies in tonsil [Figure 1, Figure 2]. The actinomycotic colonies are surrounded by chronic

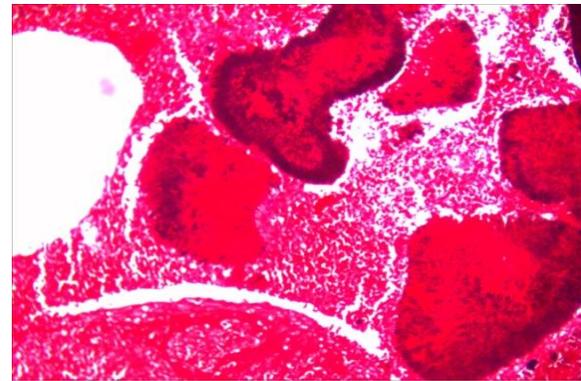
inflammatory cells. Gram staining of the sections showed gram positive mycelia in the centre and peripheral gram negative club shaped spores giving a sunray appearance [Figure 3]. Actinomycosis rarely causes tonsillar hypertrophy which mimics a malignancy. Post operative period was uneventful. She was then treated with high dose intravenous penicillin for more than 6 months. Follow up for 1 year showed no recurrence of the disease. Hence tonsillar actinomycosis should be considered in the differential diagnosis of oropharyngeal growth. Tonsillar actinomycosis is often missed by even the experienced clinicians because of its unusual clinical presentation and it remains as a diagnostic challenge to them.



**Figure 1:** Photomicrograph shows the presence of actinomycotic colonies in the crypts of tonsil lined by squamous epithelium (H and E stain  $\times 100$ ).



**Figure 2:** Photomicrograph shows actinomycotic colonies surrounded by neutrophils and lymphocytes (H and E stain  $\times 100$ ).



**Figure 3:** Photomicrograph shows the sun ray appearance of the actinomycotic colonies with gram positive mycelial filaments in the center and the gram negative spores in the periphery (Gram stain  $\times 400$ ).

## Discussion

Actinomycosis is a chronic granulomatous infection caused by the genus actinomycetes. In humans it is usually caused by *Actinomyces israelii*, a gram positive anaerobic bacteria. It is a non motile, non sporing, non acid fast organism. It is a soil saprophyte [5]. Incidence is more from the rural areas.

Actinomycetes usually colonise the mouth, colon, and vagina forming a part of the normal flora. Mucosal disruption due to poor dental hygiene and frequent trauma is the cause of infection. Four forms of clinical presentation exist. Cervico facial (70%) actinomycosis is the commonest while thoracic (5%), abdominal (20%), pelvic actinomycosis (5%) are relatively less common. Actinomycosis usually present as a indurated swelling with multiple pus discharging sinuses. Pain, fever and leukocytosis are commonly associated with actinomycosis. Organism appears in the pus as yellow coloured sulfur granules [6]. Cultures are often negative due to the overgrowth of other organisms. The diagnosis is usually made by microscopic examination of the sulfur granules.

Histopathological features of actinomycosis are collection of radiating filamentous organisms with central necrosis surrounded by neutrophils and sulphur granules. Gram staining of the slides will reveal the gram positive mycelium in the centre surrounded by a peripheral swollen club shaped structures which

are gram negative giving a sunray appearance and it is virtually diagnostic of this disease [7]. Thus it is also called as 'Ray fungus'. The fibrous walls of the mass give woody feel and foreign bodies facilitate the infection. Actinomycosis of uterus is associated with chronic IUCD use. Actinomycosis is often seen in immunosuppressed individuals [8]. Chronic actinomycosis can cause osteomyelitis of the adjacent bone.

Rarely actinomycosis of the head & neck region mimic a neoplasm. Tonsillar actinomycosis is common in the middle aged men. The literature on tonsillar actinomycosis is very scant. These lumps are confused with neoplasms and mandibular osteomyelitis. Few cases of tonsillar actinomycosis with unilateral tonsillar hypertrophy were reported from different countries [9],[10],[11]. An awareness is needed to diagnose tonsillar actinomycosis. Medical treatment along with surgical incision and drainage is sufficient for cure in most of the cases. The challenge for the clinician is to diagnose tonsillar actinomycosis in time using least invasive techniques to avoid unnecessary extensive surgeries.

## Conclusion

Tonsillar actinomycosis is a diagnostic challenge to the clinicians as it is a great mimicker. We present this case to emphasize that actinomycosis of tonsil can present like a malignant tumor. A high degree of suspicion is needed in such cases. Tonsillar actinomycosis should be diagnosed in time for treating it conservatively.

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**Conflict of interest:** Nil

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