CASE REPORT

# Actinomyces Infection of the Mastoid: A Rare Entity

**S T Subha, M.S (ORL)*, R Raman, M.S (ORL), P L Cheah, (FRCPath)***, T S Soo Hoo, (Phd Micro)**

*Department of Surgery, Faculty of Medicine and Health Sciences, University Putra Malaya, Hospital Kuala Lumpur, Jalan Pahang 53000, Kuala Lumpur, **Department of Otorhinolaryngology, *** Department of Pathology, University Malaya Medical Centre, 50603, Kuala Lumpur

**Summary**

A rare case of mastoid infection caused by actinomyces israelii is presented. This patient underwent exploratory mastoidectomy followed by long term oral pencillin. She responded well to the treatment and has been asymptomatic on follow up todate.

*Key Words:* Actinomyces infection, Mastoid

## Introduction

Infection of middle ear and mastoid by actinomyces is uncommon [1,2,3,4]. There has only been less than 30 cases previously reported in English literature[3] and none from Malaysia. This article highlights one such case which has been treated successfully by combination of surgery and long term pencillin.

## Case report

Nineteen year old girl presented with a two month history of left ear discharge and hearing loss. Clinical examination revealed an aural polyp and conductive hearing loss on the affected ear. Examination under anesthesia and excision of polyp was performed. Intra-operatively she was found to be having bony defect at posterior canal wall with an intact drum. There was whitish grey material behind the polyp which was sucked out. Histopathology report shows inflamed granulation tissue and necrotic tissue which is suggestive of actinomyces (Figure 1). CT scan did not reveal any intra cranial extension. Subsequently, mastoid exploration was performed under general anesthesia. Intra-operatively the large mastoid cavity was found to be filled with pus and whitish grey material. A myringotomy was performed for the middle ear effusion. Long term oral pencillin therapy was commenced for six weeks. At 2 months follow up post surgery the ear was dry and the patient was asymptomatic.

## Discussion

Actinomycosis is an anaerobic infection caused by actinomycetes, which is part of the normal flora in the oral cavity and intestine[5]. Antecedent disease or surgery predisposes to infection, and involved tissue

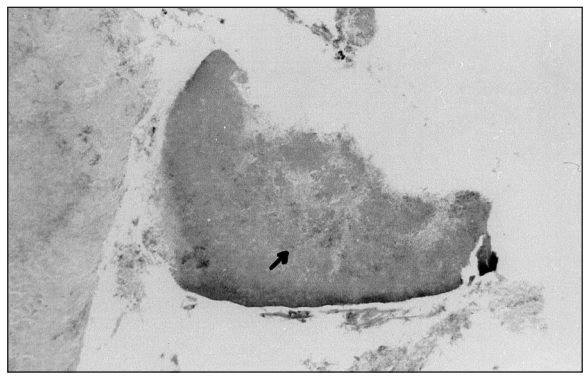

**Fig. 1: Actromyces infection of the mastoid**

This article was accepted: 24 April 2004

*Corresponding Author: Sethu Thakachy Subha, Department of Surgery, Faculty of Medicine and Health Sciences, University Putra Malaya, Hospital Kuala Lumpur, Jalan Pahang, 53000 Kuala Lumpur*

becomes indurated and forms multiple draining fistulae discharging characteristic sulfur granules. Actinomycosis of temporal bone is uncommon[3]. While the cervico facial region is the most common site of the disease, involvement of temporal bone is rare. Actinomyces species are rare but treatable causes of CNS infection. The offending organism actinomyces is anaerobic filamentous organism that is difficult to grow in culture[2,3]. The diagnosis of actinomycosis is usually made at surgery. The infection is chronic and seldom diagnosed prior to tympanomastoidectomy. The identification of small yellow, glue like masses, which are called sulfur granules, is often the key to making the diagnosis of actinomycosis [2]. The differential diagnosis includes malignancy and other chronic infections. Effective treatment consists of surgery and long term administration of pencillin[4]. Surgery is confined to taking a biopsy for histology and to the draining of inflammatory foci.

## References


1. Williams SR, Robinson PJ, Brightwell AP. Management of the inflammatory aural polyp .J Laryngol Otol 1989; 103: 1040-2.
2. Olson TS, Seid AB, Pransky SM. Actinomycosis of the middle ear Int J Pediatr Otorhinolaryngol 1989; 17: 51-5.
3. Ajal M, Turner J, Fagan P, Walker P. Actinomycosis oto-mastoiditis J Laryngol Otol 1997; 111: 1069-71.
4. Shelton C, Brackmann DE. Actinomycosis otitis media .Arch Otolaryngol Head Neck Surgery 1988; 114: 88-9.
5. Harris LF, Kakani PR, Selah CE. Actinomycosis .Surgical aspects. Am Surg 1985; 51: 262-4.