

# Intracranial complications of CSOM a study in the tribal area of Adilabad Andhra Pradesh

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## Abstract

**Objective:** The study is done with aim to review the result of management and pathogenesis of intracranial complications of chronic middle ear infection. **Methods:** This was a review of 18 cases who suffered with intracranial complications secondary to CSOM between 2010-2012. The analysis and review of symptomatology, clinical features along with conservative and surgical management is compiled in present study. Results: there were 5 patients (27%) in 0 - 10years; 3 patients in (16.6%) 11 to 20 years; and 10 patients (55.5%); in above 20years age. There is twice involvement of males as compared to females. In 18cases, 10cases had (55.5%) a single intracranial complication; whereas 8 cases (44.4%) had multiple intracranial complications. **Conclusion:** The patients who presented with delayed sequelae of intracranial complications secondary to CSOM had bad prognosis. The reason of this poor prognosis was spread of infection to sinuscausing sinus thrombophlebitis, cerebellar abscess, coning, spread to jugular bulb and resulting in empyema.

**Keywords:** CSOM.

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## INTRODUCTION

Chronic otitis media refers to an inflammatory process within the middle ear cleft associated with irreversible tissue pathology. It may be active with ongoing suppuration, or inactive demonstrating sequelae of a previous infection. Complications of chronic otitis media can be classified as intra temporal or intra-cranial. In the pre antibiotic era the rate of intra cranial complications of otitis media was 2.3%.<sup>1,2</sup> In the antibiotic era, intra cranial complications of otitis media still occur. In a more recent series of over 1400 patients with chronic ear disease and cholesteatoma followed over 15 years, nearly 7.5% developed intra cranial complications.<sup>3</sup> Meningitis is still the most common complication followed by intra

cranial abscess and lateral sinus thrombosis.<sup>4,5</sup> Early and aggressive surgical intervention of this otogenic complication can potentially minimize mortality, hospital stay, and length of medical treatment.<sup>6</sup> Any patient with an extra cranial complication from otitis media should have a neurological exam to rule out additional complications intra cranially. The modern literature of otology present a picture stating that the mortality with complications of CSOM has decreased<sup>7</sup>. This presentation reveals the scenario of cases series jot down in literature from developed countries. The present article which reveals the study of intracranial complications secondary to CSOM in the tribal region is the picture of underdeveloped cross section of society where the condition call for serious concern<sup>8</sup>.

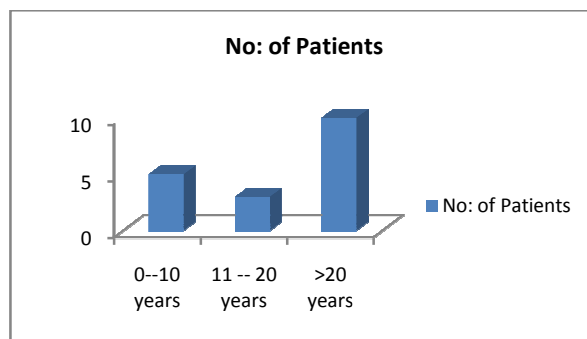


Figure 1:

## MATERIALS AND METHODS

Records of 18 patients with intracranial complications were taken for this study and a retrospective study was conducted. These 18 patients were admitted and managed in our hospital between 2010- 2012. They were operated after investigating their radiology, tomography and routine/special pathological findings. Due to unsafe CSOM (chronic suppurative otitis media) i.e. cholesteatoma surgically they were treated by canal down technique of mastoidectomy. Preoperatively and postoperatively these patients were administered with antibiotics as per culture sensitivity report along with parenteral metronidazole, crystalline penicillin.

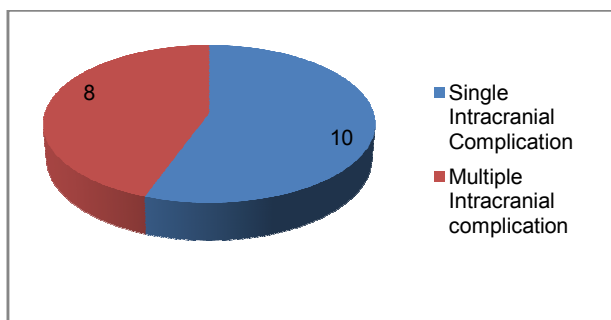


Figure 2:

## RESULTS

There were 5 patients (27.7%) in the age group of 0 to 10 years 3 patients (16.6%) in the age group of 11 to 20 years and 10 (55.5%) patients above 20 years [Figure 1] the ratio of male to female was 2:1. Among 18 patients 10 cases had single (55.5%) intracranial complications where as 8 cases had (44.4%) multiple intracranial complication. All the patients presented with fishy odour discharge from the ear, fever was present with headache in 100% patients where as 50% patients presented with projectile vomiting, Surgical treatment was given to 16 patients with canal wall down mastoidectomy . Where as one patient was in comatose state whose computerised tomography revealed that he had massive temporal lobe abscess with total coalescence of mastoid. He was explored with out anaesthesia on table his posterior canal wall was destroyed by cholesteatoma , tegmen plate was eroded ; surprisingly immediately on exploration once 150 cc pas was drained by inserting brain abscess draining needle in temporal lobe the patient regained consciousness. One patient was terminally ill whose sinus plate was eroded the infection travelled from jugular bulb vein to lungs forming empyema, he was explored and his jugular vein was legated. Due to massive empyema the patient was shifted to higher centre.

## DISCUSSION

The cholesteatoma when superadded by infection or otherwise with its characteristic to produce keratolytic enzymes results in destruction of the bony planes to which it is exposed. The osteitis and breach caused in the tegmen plate, sinus plate gives a way to microorganisms to spread the infection into dura, meninges and temporal lobe of the brain and through sinodural angel, petrous apex it leads to cerebellar abscess. Hematogrnous spread is also well documented<sup>9</sup> The presence of fishy odour discharge from ear should be taken as an alarming sign of impending intracranial complication and otomicroscopy must be done in such cases; to fish out the shallow pouches of cholesteatoma to avoid intracranial complication. A specific history and examination in such cases with otomicroscopical findings are the basis of diagnosis and treatment<sup>10</sup>. The lateral sinus thrombophlebitis is a common finding in intracranial complications hence good high spectrum antibiotic with investigations to rule out jugular vein thrombophlebitis must be done<sup>9</sup>. In our hospital where neurootology facility is not available; the otolaryngologist deal with complications of CSOM with the tool of plain radiographs and CT scan. Due to illiteracy, blind belief many patients do not come for the treatment; while assessing the records it is revealed that 30%patients left against medical advice when they were asked to undergo surgical procedure for intracranial complication of CSOM.

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