

# **Abstract**

## **OBJECTIVES**

1. The aim of the work is to study the role of High resolution Computed tomography (HRCT) in determining the extension and site of cholesteatoma and its sac, assessing the ossicles, evaluating the facial nerve canal, the tegmen and sinus plate, and evaluating positions of dura, sigmoid sinus, and jugular bulb
2. To compare the above with intra-operative findings and proceed the surgery accordingly so as to avoid complications intraoperatively and for better outcome

## **STUDY DESIGN**

A prospective study that includes chronic suppurative otitis media, squamous type (Cholesteatoma). Each patient was subjected to full clinical evaluation and CT temporal boneduring the study period.

## **METHODS**

1. Clinical history to be taken for every patient, and a full ear, nose, and throat (ENT) examination with careful otoscopic and microscopic ear examination to be done
2. In addition, a full audiological evaluation in the form of pure tone audiometry, tympanometry to be done
3. Radiological evaluation temporal bone using CT for all patients
4. Contrast enhancement for patients with suspected intracranial complications to be done
5. A thorough review of the findings to be done to demonstrate the anatomy and pathological process
6. All surgeries to be performed depending upon pre-operative CT picture and the findings intraoperatively
7. All pre-operative and intra-operative findings to be recorded and compared on basis of standard proforma
8. All data to be statistically analysed and correlated to reach conclusion

## **RESULTS**

A total of 55 patients were included in this study out of patients attending ENT OPD in tertiary care institute during the 1 year study period. The ages of the patients ranged from 9 to 55 years with mean age of 27.3 years.

The minimum age in the study was 9 years, and the maximum age was 55 years.

The maximum numbers of patients were found in the age group of 9 to 25 years.

There were 28 male (51%) and 27 female (49%) patients showing male preponderance with male to female ratio of 1:1.03.

Scutum erosion was visualized in all patients and similar findings intra operatively.

Incus appeared eroded on CT scan in 25(45.45%) of cases, whereas intra operatively it was seen in 27(49.09%).

Malleus erosion was reported by CT in 10(18.18%), and whereas intra operatively it was seen in 12(21.81%).

Fallopian canal erosion was depicted by CT in 5(9.09%) cases, whereas intra operatively it was seen in 8(14.54%).

Erosion of lateral semicircular canal was reported only in 5(9.09%) patients same intra operatively.

Sigmoid plate erosion was seen both on CT and during surgery in 7(12.72%) cases.

High Jugular was seen in 5(9.09%) of the patients which were confirmed intra operatively in all 5 patients.

## **CONCLUSION**

The results of this study suggest that preoperative HRCT imaging in cases of cholesteatoma, ossicular chain erosion, and SCC dehiscence have good correlation with intra-operative findings.

However, HRCT is not able to distinguish between cholesteatoma and mucosal disease, facial nerve dehiscence, incus and stapes erosions in the early stages.

HRCT can act as a guide to the nature of disease, potential dangers and possible complications, and this information can assist the surgeon in the choice of surgery to be performed and better advise the patient on the degree of hearing attainable after surgery.

**Keywords:** Cholesteatoma, Unsafe CSOM, HRCT temporal bone