Acute Mastoiditis with and without ICC
20 yrs of Experience Using a Mandatory CT Scan Imaging
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Conclusions
• Antibiotics treatment prior to admission and high CRP level (>93.5) are risk factors for ICC in children with AM, and in those who have them, imaging in search of ICC should be performed.
• Brain CT is the gold standard for diagnosing ICC in the emergency setting.
• By basing the decision to perform imaging in AM on the risk measures found in the present study ICC is missed
• For every child with AM, the lifetime excess risk of irradiation related cancer (1:1000 cancer cases/CT scans for children <5 y) should be weighted against the risk of not diagnosing ICC (by not performing brain CT)

Introduction
The prevalence of otogenic intracranial complication (ICC) among patients with AM remains high, ranges from 10-20%, and its long term morbidity includes hemiparesis, hydrocephalus, mental retardation, polyneuropathy and epilepsy. (Migrov et al. 2005)
Therefore, ICC is generally considered as mandatory to be diagnosed and treated as soon as possible

The goal of the Study
To characterize presenting features of AM children with the aim of defining low risk group for ICC in whom imaging at presentation might not be mandatory

Materials and methods
It’s a longitudinal tertiary mono-center study at Bnai Zion MC of 166 patients with AM treated between July 1997 – March 2018 who strictly treated according to a clinical protocol (figure 1). The data were evaluated by SPSS software

![Fig 1. Acute mastoiditis management protocol](image)

Results
Of 166 patients (<20 y/o) 22 patients were diagnosed with ICC (figure 1)

![Fig 1. ICDs imaging findings on admission](image)

Table I. Univariate Analysis Using Chi-square test

Table II. Multivariate analysis using SPSS software test

With the aim of identifying CRP cutoff, ROC curve was used, by evaluation of area under the curve for CRP, a cutoff of 93.5 mg/L yielded a sensitivity of 85.7% and a specificity of 54.5% for predicting ICCs (Odds ratio of 7.2; P 0.001; 95%CI 2.03-25.5).

CRP cutoff = 93.5 mg/L

Disscission
Antibiotic use prior to AM episode and high CRP increase risk for ICC. While other clinical and demographic parameters were not found to have association with increase risk for ICC.

Imaging still an essential tool for diagnosing ICCs in AM children, hopefully in the future MRI scan will be the gold standard in the emergency setting widely