# Summary

Otorrhea is the most common squeal of TT placement, with incidence of up to 83%. Otorrhea is seldom associated with pain and the symptoms are mild. PTTO is a common problem that is treated by both primary care physicians and otolaryngologist.

The aim of the work was to determine the bacterial growth on the surface of the TT that forms bacterial biofilm and makes the PTTO not responding to the treatment with the local ear drops and to determine the types of bacteria that form this biofilm.

This study was carried on forty patients with TT insertion for the treatment of secretory otitis media. These patients are observed for 12 months with regular full ENT examination for detection of PTTO.

Patients who was developed PTTO are given medical treatment in the form of local ear drops containing antibiotics and corticosteroids combination . In Patients not responding to the medical treatment a swab were taken from the external ear and examined microscopy and then the TT are examined for detection of the bacteria biofilm formation.

The following data were collected from each patient:

- Personal data: age, sex.
- Medical data: underlying diseases.
- Data related to the TT including : circumstances at TT insertion (septic, aseptic), onset of PTTO and its duration .

The samples were collected under complete aseptic conditions then transported the Microbiology laboratory.

TTs were cultured using the semiquantititative culture method then stained by acridine orange followed by Gram's stain . The biofilm production by the isolated staphylococcus strains was demonstrated by both Congo red agar method and tube method.

From this study we conclude that S. aureus and P. aeruginosa biofilm is the common cause of PTTO and it makes the PTTO is resistant to medical treatment that makes the removal if the TT is necessary to eradicate the bacterial biofilm and to treat ear infection.

The S. aureus infection ratio was 41.7% and the P. aeruginosa infection ratio was 33.3% .Only 16.7% of cases shows mixed bacterial and fungal infection while 8.3% of cases shows fungal infection.

It is important to use prophylactic post operative ear drops to prevent the formation of the bacterial biofilm in patients with TT insertion as the use of ear drops decrease the incidence of PTTO to the half.