

## Summary

This study was conducted on the group of patients with suppurative otitis media (OM) from ear, nose and throat (ENT) clinic in Al-Diwaniya Teaching Hospital during January to August 2010.

A total of (95) individuals of both sexes gathered comprising as (55) patients with suppurative otitis media (SOM) group, consisting of (25) males and (30) females and (40) healthy individuals consisting of (20) males and (20) females were randomly selected as normal control group. The age of patients and control range from (1-60) years.

Samples (ear swab) were taken before treatment. The collected sample was processed for bacterial isolation, identification and antibiotic sensitivity test were assessed for each isolate.

Blood samples were collected from both patients and control to estimate total Leukocytes count, Neutrophils count, Lymphocytes count by differential method and tumor necrosis factor alpha (TNF- $\alpha$ ) by Enzyme-linked immunosorbent assay (ELISA) method.

Otitis media was found mostly in those who were more than (50) years of age. The results of bacterial culture were positive results in (50) (90.9%) of ear swab samples from suppurative otitis media. Gram-negative bacteria were more prevalent (29:50) (56%) compared with Gram-positive which constitutes (21:50) (44%). Gram negative bacteria consist of *Pseudomonas aeruginosa* was the most common bacteria species isolated from patient with Otitis media (30%), *Proteus vulgaris* (16%), *Enterobacter* spp. (6%), *Acinetobacter baumannii* (4%) and *E. coli* (2%). While Gram-positive include *Staphylococcus aureus* (38%) and *Staphylococcus epidermidis* (4%).

Amikacin and ciprofloxacin were the most effective antibiotics against bacterial isolates.

Total leukocytes count does not differ significantly ( $p < 0.05$ ) in recurrent OM patients and healthy control. So neutrophils count does not differ significantly ( $p < 0.05$ ) in recurrent otitis media patients and healthy control. Lymphocytes count does not increase significantly ( $p < 0.05$ ) in recurrent Otitis media (ROM) and acute Otitis media AOM patients. There was no significant increase ( $p < 0.05$ ) in TNF- $\alpha$  level in (ROM) patients. TNF- $\alpha$  concentration was elevated in serum patients with *S. aureus* and *Proteus vulgaris*. While it was low with *E. coli*. Though a study of clinical features which association with TNF- $\alpha$  level we can not show that was direct relation for each sign or symptom. Some of the clinical features of otitis media have no direct association with TNF- $\alpha$  level but others dependent on it as fever and ear pain.