Summary and Conclusion

Bacterial meningitis is a serious clinical condition , and an early and reliable diagnosis is of great importance to the outcome of the disease . Beacause of the necessity of immediate therapy , the results of cerebro - spinal fluid cultures cannot be awaited, and these results may even be obscured if the patient had received antibiotic treament beforehand (Balzer S , *etal* ; 1983) .

The present work aimed at studying the TNF - α value in both plasma and CSF of patients with acute meinigitis for early diagnosis and differentiation between bacterial and non bacterial meningitis . The sutdy was carriad out on 50 children with age ranged from 6 months to 12 years categorized into four groups acute bacterial meningitis group , acute non bacterial (presumed viral) meningitis group , partially treated bacterial meningintis group and control group .

In the present study TNF - α was present in the CSF of 14 out of 15 cases with bacterial meningitis (93.33 %) with a mean value =891.33 pg /ml at the time of admission . All other 3 groups viral, partialy treated, and control had non significant values of TNF - α in their CSF (less than 35 pg /ml) .

Plasma TNF - α was present in 9 out of 15 cases of bacterial meningitis group (60 %) by high significant values with mean = 110.62 pg /ml and was significantly higher than plasma TNF - α of all other 3 groups .

CSF cultures of 15 bacterial cases showed that 6 cases Haemophilus influenzae , 7 cases N. meningitidis and 2 cases with St . pneumoniae organism.

In our study we found that CSF TNF - α was significantly correlated directly with CSF cells, protein concentration & inversly with glucose concentration

In the present study there was no significant relation between CSF TNF- α and blood leukocytes or CSF chloride .

CSF- TNF - α was correlated with number of consecutive febrile days and presence of seizures during admission . There was significant correlation between TNF - α values in both plasma and CSF , but levels of CSF TNF - α was much more higher .

CSF TNF - α in partially treated bacterial group was non significant in all cases (< 35 pg /ml), so we reported that TNF - α was rapidly disappearing from CSF after initiation of antibiotic therapy . Arditi, *et al.* (1990) reported that the longest interval after initiation of antibiotic

From this study we concluded that : -

CSF TNF - α is a simple test, easy, reliable and rabid for differentiation between bacterial and non bacterial (presumed viral) meningitis .

CSF TNF - α is related to the presence of seizures and number of febrile days , so its benifcial in evaluation of cases .

Such rapid and simple test can be used in epidemics for evaluation and differetiation between bacterial and non bacterial cases of meningitis .