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Comparing the HSP70 level in cerebro spinal fluid of children with bacterial and aseptic meningitis

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Objective: Bacterial meningitis is a serious disease in infancy and childhood with high mortality and morbidity.HSP70 as a new biomarker which is detectable in blood and other body fluids (CSF, synovial fluid).

Goal of study: To determine the HSP70 level in CSF of children with meningitis for comparing it between bacterial and aseptic meningitis.

Methods: This comparative cross sectional study had done upon 86 children with meningitis admitted at the pediatric ward of Rasoul hospital, Tehran. Lumbar puncture had done in all cases and CSF studied for Standard test (Smear, sugar, protein WBC and CSF culture). Type of meningitis determined. HSP70 level (ng/ml) determined in CSF and compared between bacterial and aseptic meningitis and other variables.

Findings: Age of cases was between 6-86 months (10.75 ± 1.67). CSF - HSP70 level related to type of meningitis (bacterial) and sex (p==0.000, 0.5) of patients but not to age of cases. AUC was 0.948; HSP70 level 0.39ng/ml had 96% sensitivity and 77% specificity for differentiating of bacterial meningitis.

Conclusion: CSF -HSP70 level had 96% sensitivity and 77% specifity. So it is useful and valuable for diagnosis the bacterial meningitis. This test is important in meningitis cases whom received antibiotic treatment before admission and partially treated meningitis.

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