Utility of C-Reactive Protein in Febrile Children with Clinically Undetectable Serious Infection

Sir,

We aimed to study the utility of C-Reactive Protein (CRP) in detecting serious bacterial infection (SBI) in children with fever as there is sparse data available, especially in India.[1-4] One hundred and nine children (1-36 months of age) with fever (≥ 39°C; < 7 days) without any focus of infection were enrolled in this prospective cohort study. Those with recent vaccination, immunodeficiency and antibiotic use were excluded. Investigations included Total Leukocyte Count (TLC) and Absolute Neutrophil Count (ANC) (Coulter MS 93 and Micros 60), Band count, CRP (Teco Diagnostics, USA), urinalysis and blood culture. Twenty-one children had SBI (Occult Bacteremia (OB)-10, Urinary Tract Infection (UTI)-6, pneumonia-3, meningitis-1 and enteric fever-1). Higher incidence of SBI suggests higher infection rate.[5] Main organisms found on cultures were *Staphylococcus aureus*(5), *Staphylococcus epidermidis*(3), *Enterobacter faecalis*(1) and Klebsiella species(1) for OB; *Escherichia coli*(5) and Citrobacter(1) for UTI and *Acinetobacter* species in meningitis. Duration of temperature, CRP and band count were significantly higher in children with SBI as compared to those without SBI (*P* value < 0.05) The two groups were not significantly different in characteristics like age, sex, degree of fever, TLC, ANC, and Yale observation score. Higher CRP suggests greater inflammatory response in SBI. CRP had higher sensitivity (95.2%) and negative predictive values (95%) than TLC, ANC and band count. The area under the Receiver Operating Characteristic curve (SE, 95% CI) was highest for CRP 0.7 (0.07; 0.550-0.841) and statistically significant (*P* value = 0.01). CRP> 12.8 mg/dL (multilevel likelihood ratio analysis-*P* value < 0.001) was highly significant in predicting SBI in our study which is comparable to other reports.[2] Thus, CRP may serve as a rapid screening tool in early recognition and management of children with SBI.

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Quick Response Code:

Website: www.jgid.org

DOI: 10.4103/0974-777X.107174