Own Experience of Using of C-Reactive Protein to Determine Activity of Inflammatory Process

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Background: C-reactive protein (CRP) is well known inflammatory marker. It serves as an early marker of inflammation or infection, which level rise within the first 6 to 8 hours and peak at levels of up to 350–400 mg/L after 48 hours [4]. In addition, CRP level up to 80 mg/L is considered as an indicator of bacterial origin of infectious [1].

The aim: to analyzes own experience of using of CRP in children with different inflammatory diseases.

Materials and Methods: we analyzed serum CRP level of 120 children (for 30 with common

But some recent data don't recommend routine obtain of CRP for children with infections because weak evidences of sensitivity. Children with bacterial infectious more likely will have elevate level of CRP, but low or high level of marker can't exclude or proof absence or present bacterial infection [2,3].

cold, community acquired pneumonia, streptococcal tonsillitis and pyelonephritis) at admission before starting therapy during first 5 days of disease. Study include 69 boys and 51 girls with average age was 1.44 ± 0.6 years and day of illness 3 ± 0.7 days.

Result: average level of CRP in children's serum with common cold was 22 ± 3.7 mg/l, from undetectable level in 9 patients to 60 mg/l, pneumonia 56.7 ± 5.3 , from undetectable level in 3 children to 360 mg/l, streptococcal tonsillitis 105.7 ± 40.3 , from undetectable level in 2 cases to 900 mg/l, and pyelonephritis 98.5 ± 64 mg/l, from undetectable level in 2 kids to 300 mg/l.

Serum level of CRP according to a day of disease during admission was analyzed also. These results are shown in graph below .

Correlation of CRP and white WBC count and erythrocyte ESR was found: children with pyelonephritis had strong significant correlation with WBC count ($r=0.87$) and ESR ($r=0.9$); in cases of pneumonia with ESR ($r=0.87$) and in cases of common cold CRP correlated with ESR ($r=0.72$).

Conclusion: serum level of CRP was in children different type of inflammatory process does not have any statistical differences between groups. There was tendency to higher level in children with pyelonephritis and tonsillitis and increasing CRP level in few following days after admission.

Day of disease did not influence significantly determined serum CRP level too.

Correlation with other inflammatory markers as WBC count and ESR was find mostly for pyelonephritis and pneumonia.

Studding of CRP level changes in children with different inflammatory diseases should be continued.

References:

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