ABSTRACT

The word sepsis originated from the old Greek word meaning “PUTREFACTION”. Nowadays this term is used to describe the host systemic response to infectious stimuli that is characterized by clinical, hemodynamic, biochemical and inflammatory responses. Increasing understanding of various inflammatory cascade mechanisms has given new insights and provided several markers that, in conjunction with other manifestation of sepsis can be useful as indicators of infection. C-Reactive protein is one such marker. Many biochemical markers and clinical scoring systems are used to assess the severity and outcome of sepsis. CRP levels are widely used as a relative non-specific marker of inflammation. The level of CRP will be correlated with the prognosis of a patient with sepsis. Prognostic indexes have been developed for estimating hospital mortality rates for patients hospitalized in ICU, based on demographic, physiological and clinical data. The most frequently used indices is APACHE II Scoring system. Both scoring systems and CRP levels were significantly higher in the nonsurvivors when compared with the survivors. Nonsurvivors had significantly higher CRP levels. The relationship between the CRP levels and APACHE II score indicates that both these parameters are useful indicators of severity and prognosis.

AIMS AND OBJECTIVES:

To study the prognostic outcome of patients with sepsis by using both the scoring system (APACHE II) and Acute phase reactant (CRP)

MATERIALS AND METHODS:

In our study 50 patients with sepsis who met the inclusion and exclusion criteria were selected from the medical wards and ICU in the institute of internal medicine. Serum CRP and APACHE II score were checked at the time of admission.
and 48 hours after admission by using immunoturbidometric method and score calculator.

**OBSERVATION AND RESULTS:**

In our study, it was observed that CRP and APACHE II were compared at admission. The correlation is statistically significant with the P value of 0.01 with correlation coefficient of 0.63. After 48-72 hours also it is statistically significant with P value of 0.01 and the correlation coefficient of 0.61. Comparison of CRP with smoking, hypertension, diabetes, alcohol are not statistically comparison of CRP with SOFA score also not statistically significant.

**CONCLUSION:**

In conclusion, the present study showed a statistically significant correlation between the CRP and APACHE II score on admission and after 48 hours. CRP estimation is an economically, consistent and reproducible test and available in almost every hospital. It is elevates significantly in patient with sepsis and increase according to the severity of the sepsis which could lead to increased predisposition to morbidity and mortality. Mortality of the sepsis is increase with the age of the patient. When using both the scoring system and CRP the prediction of outcome in patients with sepsis is increased. So this study is useful in a way that in future if a patient is admitted with sepsis and having high APACHE II score and CRP levels means the prognosis and outcome of the patient is poor and he/she should be treated with aggressive and appropriate therapy.

**KEYWORDS:**

Acute physiology and chronic health evaluation II (APACHE II), C-Reactive Protein.