Interleukin-6 assays can be useful in diagnosis of sepsis alongside CRP. This study looks at the influence of IL-6 and CRP results on clinical decision making.

Methods A prospective web-based questionnaire survey of both junior doctors (online survey) and Consultants (focus group) was carried out using 20 hypothetical scenarios of neonatal sepsis along with hypothetical IL-6 and CRP results. The differences in diagnostic certainty of sepsis on the basis of clinical history alone were compared with that of addition of CRP and IL-6 results, within and between both the trainee and expert groups. (Expert group consensus responses were considered as gold-standard).

Results Experts: Based on clinical history, CRP and IL-6 results, experts agreed to the possibility of sepsis in only 25% of the clinical situations. Antibiotic usage by experts subsequent to sepsis categorisation was reduced with the availability of CRP results. (55% after IL-6 vs. 30% after CRP results).

Trainees: CRP results were shown to be statistically significant in changing clinician’s decisions. Trainees favoured a greater likelihood of sepsis when IL-6 results were available prior to CRP results. Using the focus group consensus as gold standard, IL-6 results were used by trainees for confirming sepsis irrespective of whether they were available prior to or after CRP results.

Conclusion Both point-of-care IL-6 test results and CRP results helped doctors in confirming a diagnosis of sepsis. IL-6 was not useful in ruling out sepsis.

**Background and Aims** Premature infants are exposed to numerous perinatal stresses such as hypothermia, hypoxia, hypotension, umbilical vessel catheterization. All of these have been postulated as risk factors for ischemic injury of the neonatal intestine. The intestinal permeability is increased in bacterial translocation which can lead to endotoxemia and multiple organ failure. The aim of this study was to determine anti endotoxine immunity (AEI) in premature infant depend on birth weight.

**Methods** Premature newborns were divided into two groups. The first group consisted of 61 newborns with birth weight more than 1500 gram and 20 infant with birth weight less than 1500 gram were included in second study. In this study urinary intestinal fatty acid bind protein (i-FABP) level was measured as a specific marker for intestinal mucosal damage and serum LBP concentration was detected for estimation of AEI. Both markers were determined by enzyme linked immunosorbent assay.

**Results** The mean i-FABP concentration in the second group (1.75±0.62 ng/ml) was elevated in 1.4 times compared with the first group (1.23±0.23 ng/ml). Significant high urine i-FABP concentration was observed in died infants of second group (2.39±0.88 ng/ml, p<0.05). In contrast the serum LBP level in newborns of second group was lower (23.1±4.5 ng/ml) in 1.4 time compared with newborns of first group (32.1±2.3 ng/ml).

**Conclusion** Very low birth weight newborns are at increased risk of intestinal mucosal injury and endotoxemia and decreased serum LBP level in these infants should be considered as an unfavorable factor for sepsis.

**Background and Aims** QCPR being acute phase reactant has predictable pattern of rise and fall following inflammation. Few studies have used QCPR for appropriateness of antibiotic therapy.

To determine the difference in the magnitude of change in QCPR values from baseline to 48 h in subjects with culture positive neonatal sepsis receiving sensitive antibiotics (CPSA) versus those receiving resistant antibiotics (CRPA).

**Methods** Neonates < twenty-eight days with suspected sepsis and baseline QCPR >10 mg/L were enrolled. Serum samples at 24, 36 and 48 h after initiation of antibiotics were analyzed for QCPR (PETIA: Particle enhanced turbidimetric immunoassay). After collecting blood culture [BD BACTEC™ Plus/F] report, CPSA and CRPA were cases and sterile cultures were controls. Mann-Whitney U test, linear regression, ROC curve and Youden’s index were used to measure appropriateness of antibiotic therapy.

**Results** In one hundred forty-one sepsis episodes forty-five were CPSA, forty-four were CRPA and fifty-two were culture sterile. The difference in QCPR between CPSA and CRPA was significant at all time points (p<0.001). The area under ROC curve was highest for ACRP$_{0-48}$ [CRP (0 hr)-CRP (48 hr)] and ACRP$_{24-48}$ [CRP (24 hr)-CRP (48 hr)] i.e 0.879 (CI: 0.80, 0.95) and 0.89 (CI: 0.81, 0.96) respectively. If ACRP$_{0-48}$ was ≥ 6.2 mg/L, the infant was likely to be getting sensitive antibiotics (sensitivity 86%, specificity 84%).

**Conclusion** A decrease in serum QCPR by 6.2 mg/L can be used as a useful indicator of the appropriateness of antibiotics in neonatal sepsis.