SUMMARY:

Background: Despite of our growing knowledge in pathophysiology of sepsis and septic shock, technological and pharmacological advances, and proper standard treatment, sepsis and septic shock still remain one of the most important factors of hospital mortality. It is thought that, early diagnosis and treatment at early stage of sepsis and septic shock would decrease its mortality. Even many biomarkers have been described, currently C-reactive protein (C-RP) and procalcitonin (PCT) are widely used in clinical practice. There have been on-going studies in recent years which research the usability of Heparin Binding Protein (HBP) in early diagnosis of sepsis.

Objectives: To seek the usability of C-reactive protein (C-RP), procalcitonin (PCT) and heparin binding protein (HBP) biomarker combination in early diagnosis of septic shock.

Methods: 20 patients, who have the diagnosis of septic shock, that are expected to stay in intensive care unit more than 24 hours, and aged between 22-76 are included in the study. Data are collected from the patients’ blood samples that are drawn on admission, on the 24th hour, and on the day of discharge or death. 5 ml of blood samples were drawn from the patients to sterile tubes and were stocked in deep freeze (-30oC) in order to test HBP and PCT levels.

Results: It has been found in our study that, best “cut-off” value 125 ng/mL, specificity 0.81 and sensitivity 0.76 for HBP. Compared with other biomarkers, HBP was the best predictor of progression to organ dysfunction (area under the receiver operating characteristic curve (AUC) = 0.801).

Conclusion: Although there have been many biomarkers for early diagnose of septic shock, C-RP and PCT are the most common used markers in nowadays’ clinical practice. The usability of HBP in early diagnosis of sepsis is still being researched. We concluded that PCT, C-RP and HBP biomarker combination is usable to diagnose septic shock at the end of our study.