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The effects of adjuvant therapies for sepsis on hepatic and renal function: a retrospective analysis of 108 ICU patients

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Abstract: As liver and kidney failure have a direct effect on mortality, morbidity, and intensive care unit (ICU) length of stay in sepsis patients, maintaining their functions or minimizing the degree of failure should be one of the most important goals of therapy. In this retrospective study we investigated the effects of recently introduced adjuvant therapies on hepatorenal functions in septic ICU patients. **Materials and methods:** We conducted comparative and retrospective data analysis of 108 patients with sepsis that were followed-up during a 2-year period in the ICU. We recorded AST, ALT, ALP, albumin, bilirubin, and INR in order to evaluate variations in hepatic functions, and we recorded creatinine, BUN, and mean hourly urinary output in order to evaluate variations in renal functions in patients that received standard antibiotherapy only (ST group), in those that received polyvalent IgM-enriched immunoglobulin therapy added to standard antibiotherapy (IVIg group), and in those that received recombinant human-activated protein C therapy added to standard antibiotherapy (APC group). Variables at the beginning of the treatments and 96 h post-treatment were assessed. **Results:** In total, 108 patients were analyzed (IVIg group: n = 20 in; APC: group n = 22; ST group: n = 66). The groups were homogeneous in terms of initial hepatic and renal functions, according to AST, ALT, albumin, INR, bilirubin, BUN, creatinine, and mean hourly urinary output. In the APC group the AST level at 96 h was significantly lower than that at baseline (0 h), and in the ST group 96-h bilirubin was lower than that at baseline (0 h) (P = 0.035 and P = 0.015, respectively). **Conclusion:** We retrospectively observed that the adjuvant therapies did not improve hepatorenal functions in our ICU septic patients.

Key words: Sepsis, hepatic functions, renal functions, activated protein C, intravenous immunoglobulin

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