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Title: Serum miR-122 levels correlated to the coagulation disorders of severe sepsis patients

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Body: Purpose: miR-122 is a serum signature for liver injury and a prognostic predictor for sepsis patients. Sepsis patients with coagulation abnormalities may be a major impact on the outcome. The aim of our study was to investigate if there were relations between miR-122 and coagulation disorder during sepsis. Methods: 123 severe sepsis patients were recruited from Intensive Care Units of Chinese PLA general hospital. 24 healthy subjects were selected as normal controls. After collection of the blood samples of these participants, levels of miR-122 were detected by quantitative reverse transcriptase polymerase chain reaction assays (qRT-PCR) and coagulation indexes were detected by Enzyme-Linked Immunosorbnent Assay (ELISA). Findings: Serum levels of miR-122 were correlated to the serum levels of Activated Partial Thromboplastin Time (APTT) (R=0.426, p=0.008), Fibrinogen (FIB) (R=0.398, p=0.008), Antithrombin III (AT III) (R=0.913, p<0.001). Then, these patients were divided into coagulation abnormal patients and coagulation normal patients. Levels of miR-122 were significantly higher in coagulation abnormal patients than in coagulation normal patients (p=0.029). The area under curve of miR-122 to diagnose coagulation abnormalities was 0.676 (95%CI, 0.533-0.819), p=0.029. When the relative level of serum miR-122 was 0.453, miR-122 generated a sensitivity of 59.4% and a specificity of 77.3%. Conclusions: Serum levels of miR-122 were correlated to coagulation disorders of sepsis patients.