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Title: Expression and clinical diagnostic efficacy of serum PCT and macrophage migration inhibitory factor in patients with sepsis

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Body: Objective: To investigate the expression and clinical significance of procalcitonin(PCT) and macrophage migration inhibitory factor(MIF)for diagnostic efficacy, severity stratification and prognostic outcome of sepsis. Methods: ninety sepsis patients admitted to ICU were prospectively divided into the sepsis group (n=18) ,the severe sepsis group (n=40) and the septic shock group (n=32). The serum PCT was measured by ECLIA, and the serum level of MIF was measured by ELISA, which was compared with normal subjects (n=30) respectively. Clinical data and the 28days survival situation of these patients were also recorded. Results: The PCT concentration was the highest in septic shock group, followed by severe sepsis group, sepsis group, and then the control group, showing significant difference ($P<0.01$). The level of serum PCT in death group showed no significant difference compared with survival group ($P>0.05$). ROC curve to predict diagnosis of sepsis, The area under the curve(AUC) of PCT was 0.942, MIF was 0.911,and combined PCT and MIF was 0.948. Conclusions: The serum concentration of PCT and MIF were useful biomarkers for diagnosis of sepsis. PCT could be used in severity stratifying for sepsis.The combination usage of serum PCT and MIF can increase the diagnostic efficacy of sepsis. key words: Sepsis; procalcitonin; macrophage migration inhibitory factor; biomarker.