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Protein C, Protein S and Antithrombin III Levels in A Rabbit Sepsis Model

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Abstract: The consumption of coagulation inhibitors will augment coagulation triggered excessively in sepsis. The determination of levels of these inhibitors may open new substitution treatment schedules to overcome the plateau of the achieved improvement ratio with antimicrobial treatment. *Staphylococcus aureus* ATCC 25923, 1×10^9 per kg day for two days was administered intravenously to 30 albino rabbits to induce sepsis. Clinical and hematological signs were determined and sepsis was determined with blood culture. The complete blood count, protein C, protein S and antithrombin III levels were examined at the baseline and after sepsis development. The mean proportions of baseline to sepsis levels of protein C, protein S and antithrombin III were 69.3%, 56.5% and 117% respectively. The differences between the levels before and after sepsis were significant for protein C ($p < 0.001$) and protein S ($p < 0.05$). Although there was a slight increase in antithrombin III levels, the difference was not significant. Our study suggests that replacement therapy in sepsis was rational for consumption of protein C and protein S, but not for antithrombin III.

Key Words: protein C, protein S, antithrombin III, sepsis.

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