Patients with Hepatosplenic Schistosomiasis mansoni and Advanced Periportal Fibrosis Increase Hemostatic Dysfunction

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Schistosomiasis mansoni is an endemic disease in Northeast Brazil. The purpose of this study was to evaluate whether abnormal blood coagulation and hepatic function tests in patients (n=55) with hepatosplenic schistosomiasis correlate with the severity of their periportal fibrosis. Blood samples were collected for analysis of hepatic function tests, hemogram, prothrombin time, blood coagulation factors (II, VII, VIII, IX and X), protein C and antithrombin IIa (ATIIa), plasminogen activator inhibitor 1 (PAI-1) and D-dimer were measured by spectrophotometry or enzyme linked immunosorbent assay (ELISA). Hyperfibrinolysis was defined on the basis of D-dimer concentration above the standard cut-off (483 ng/mL). The group of patients had an increase in serum transaminases and reduction in albumin. In comparison to the control group, the patients showed significant reduction in platelet counts (50%), Factor VII and protein. Furthermore, analysis showed that patients with advanced fibrosis had lower levels of protein C, when compared to those with only central fibrosis. The concentration of plasma PAI-1 was one-third of that found to the control group, and D-dimer levels of patients were 2.2 fold higher than in control group with one-quarter of patients exhibiting D-dimer level above the cut-off. The results reinforce the hypothesis that hemostatic abnormalities are associated with reduced hepatic function and increased liver fibrosis, and it seems that the patients have hyperfibrinolysis, which may predispose to gastrointestinal bleeding.

Keywords: Blood coagulation; Hyperfibrinolysis; Liver fibrosis; Portal hypertension

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