

Assessment of Coagulation and Fibrinolysis in Children with Chronic Liver Disease.

Abstract

We aimed at assessing the coagulation profile and detecting early evidence of fibrinolysis in pediatric patients with chronic liver disease. Seventy-six patients (40 boys) with a mean age of 9.8 ± 3.4 years suffering from chronic liver disease were enrolled in this study. They were followed up in the Pediatric Hepatology Unit, Cairo University Children's Hospital. Thirty healthy children were included as controls. Patients were classified etiologically into four groups: chronic viral hepatitis, autoimmune hepatitis, miscellaneous and cryptogenic groups. Investigations to detect coagulopathy were done for all patients and controls: prothrombin time (PT), activated partial thromboplastin time, fibrinogen, fibrinogen degradation products, and D-dimer and complete blood count. Liver functions were done for all patient groups. A significantly lower platelet count, prolonged prothrombin time, with prolonged aPTT time was detected in all patients compared with controls ($P < 0.001$). The fibrinogen level showed no significant difference between patients and controls. D-dimer level was significantly higher in the miscellaneous and cryptogenic groups when compared to other patient groups and control group ($P < 0.001$). Significantly higher D-dimer levels were detected in patients with liver cirrhosis of child class A and B compared with noncirrhotic and control groups ($P < 0.001$). D-dimer correlated positively with PT ($r = 0.290$, $P = 0.003$), and negatively with platelet count ($r = -0.324$, $P = 0.001$) and prothrombin concentration ($r = -0.270$, $P = 0.018$). Fibrinolytic activity, as evidenced by high D-dimer, was detected in pediatric patients with chronic liver disease particularly if cirrhotic.

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