

# **Role of protein C, protein S, and antithrombin III deficiency in coagulopathy in cirrhotic patients with portal vein thrombosis**

Ahmed Saif Al-Islam<sup>1</sup>, Mohammad Abd Allah Mohammad<sup>2</sup>, Mohammed Zaki<sup>3</sup>,  
Mahmoud Saif Al-Islam<sup>4</sup>

1: Lecturer of Vascular Surgery, Sohag University, Faculty of Medicine.

2: Lecturer of Clinical Pathology, hematology and hemostasis unit, Sohag University, Faculty of  
Medicine

3: Lecturer of Diagnostic Radiology, Sohag University, Faculty of Medicine.

4: Lecturer of Tropical Medicine and Gastroenterology, Sohag University, Faculty of Medicine.

## **Abstract**

### **Background**

Patients with liver cirrhosis are generally considered "auto-anticoagulated" because of coagulopathy and thrombocytopenia. However, deep venous thrombosis (DVT) has been reported in patients with liver cirrhosis.

### **Aim of the work**

The aim of this study is to evaluate the role of protein C, protein S, and antithrombin III deficiency as risk factors for portal vein thrombosis (PVT) in cirrhotic patients.

### **Methods**

The levels of protein C, protein S, and antithrombin III in 14 cirrhotic patients with PVT, 25 cirrhotic patients without PVT, and 25 healthy controls were determined and statistically analyzed.

### **Results and conclusions**

There is statistically non significant difference between the levels of protein C, protein S, and antithrombin III in the cirrhotic patients with and without PVT suggesting that PVT occurs mainly due to other causes as local stasis in the portal vein. However, Levels of protein C, protein S, and antithrombin III were significantly lower in the cirrhotic patients when compared to the healthy controls mostly due to decreased hepatic synthesis of these factors.