Evaluation of Thromboelastometry in Sepsis in Correlation With Bleeding During Invasive Procedures.

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Abstract

Prolongation of prothrombin time (PT) is often encountered in patients with sepsis. On the other hand, thromboelastometry as a global coagulation test might yield normal results. The aim of our study was to evaluate whether prolonged PT in the presence of normal thromboelastometry parameters is associated with severe bleeding in patients with sepsis undergoing invasive procedures. In patients with sepsis undergoing low-risk bleeding invasive procedures (central venous catheter placement, dialysis catheter insertion, drain insertion, and so on) or high-risk bleeding invasive procedures (surgical tracheostomy, surgical laparotomy, thoracotomy, and so on), coagulation was assessed by thromboelastometry using EXTEM test (test for evaluation of the extrinsic pathway of coagulation, contains activator of extrinsic pathway) and with PT. For period of years 2013 to 2016, we assessed occurrence of severe bleeding during those procedures and 24 hours later in patients with prolonged PT and normal thromboelastometry results. This retrospective study
was performed at Department of Anaesthesiology and Intensive Care Medicine of Motol University Hospital in Prague. Data from 76 patients with sepsis were analyzed. Median value of international normalized ratio (INR) was 1.59 (min – 1.3 and max – 2.56), and median value of prothrombin ratio (PR) was 1.5 (min – 1.23 and max – 2.55) with normal thromboelastometry finding. Despite prolonged INR/PR, no severe bleeding was observed during invasive procedures. Our data show that sepsis may be accompanied by normal thromboelastometry results, despite prolonged values of PT, and invasive procedures were performed without severe bleeding. This approach to coagulation assessment in sepsis may reduce administration of fresh frozen plasma to the patients. The study was registered at Clinical Trials.gov with assigned number NCT02971111.


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