Thrombocytopenia and Thromboprophylaxis

A Difficult Combination?

To the Editor:

In a large, multicenter study of thrombocytopenia in critically ill patients in a recent issue of CHEST (October 2013), Williamson et al compared unfractionated heparin and low-molecular-weight heparin for thromboprophylaxis. The authors excluded patients who had moderate to severe thrombocytopenia in these cases. This is unfortunate because we lack a similar study in patients where thromboprophylaxis is administered despite thrombocytopenia, at least not severe (< 30 × 10^9/L).

Physicians often are reluctant to give anticoagulants to patients with thrombocytopenia because of fear of bleeding, but many protocols and guidelines recommend this approach. However, this practice does not have any evidence base. It is not uncommon for a coagulation specialist to accept a platelet count as low as 30 × 10^9/L. Significantly lower ADAMTS13 activity (corresponding with increased platelet aggregation) was observed in patients with severe sepsis in intensive care. Additionally, in the most serious complication of disseminated intravascular coagulation in these patients, platelet aggregation as demonstrated by low levels of ADAMTS13 enzyme was observed. It is relevant to note that platelet aggregation is a common feature of many diseases prevalent in an intensive care population that would predispose patients to thrombosis rather than to bleeding, and thromboprophylaxis is more likely to be helpful. Of interest, the authors identified severe illness, prior surgery, use of inotropes or vasopressors, and renal replacement therapy, all of which are inherently prothrombotic states where thromboprophylaxis would have been more appropriate than excluded.

In summary, thrombocytopenia in patients requiring intensive care may not be a contraindication for thromboprophylaxis in most cases. Indeed, a severe degree of thrombocytopenia may actually signify higher thrombotic risk from platelet aggregation rather than bleeding risk.

Jecko Thachil, MD
Manchester, England

REFERENCES


Response

To the Editor:

We thank Dr Thachil for his comments. Although the safety of anticoagulant thromboprophylaxis in patients developing thrombocytopenia was not the subject of our study, we agree that this issue is important. In the Prophylaxis for Thromboembolism in Critical Care Trial (PROTECT), patients with thrombocytopenia on enrollment (platelets < 75 × 10^9/L) were excluded. If platelet count decreased to < 50 × 10^9/L in the ICU in enrolled patients, the study drug (either unfractionated heparin or dalteparin) was withheld and restarted at the clinician’s discretion. Consequently,