

# BLOEDB(L)AD

## Current perspective on fibrinogen concentrate in critical bleeding

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The authors present evidence for the management of patients with massive haemorrhage treated with fibrinogen concentrate. It is an interesting and enjoyable read, from which I will highlight the most relevant points.

For the treatment of patients with major haemorrhage, two key points are the speed of diagnosis and early intervention. During the diagnosis and early intervention period, there is need for coagulopathy testing. The initial management of haemorrhage typically involves the transfusion of blood products in a pre-fixed ratio, consisting of large amounts of fresh frozen plasma (FFP) and low amounts fibrinogen concentrate. Treatment then moves towards goal-directed therapy, once laboratory results are available. With the development of viscoelastic haemostatic assays, the time to diagnosis of coagulopathy has significantly reduced.

Fibrinogen plays an essential role in early factor replacement, and is given in concentrate form, as FFP is not considered to provide a rapid clinical benefit (given the low and unpredictable concentration of fibrinogen within FFP). In haemorrhagic patients, the administration of fibrinogen and its effects on the firmness of blood clotting are well reflected by viscoelastic haemostatic assays, which are considered to provide the best treatment guidance in these patients. Within a haemostasis laboratory, fibrinogen should be measured using the Clauss method, to avoid errors in patients with prolonged prothrombin time. In patients with severe trauma and massive haemorrhage, the early administration of fibrinogen is recommended in patients with suspected hypofibrinogenaemia, even without reliable coagulopathy testing. However, fibrinogen concentrate is not recommended for prophylaxis. Regarding dosage, the article presents the equations suggested for fibrinogen concentrate calculation, based both on Clauss method or on viscoelastic haemostatic assays.

The administration of fibrinogen concentrate has not been associated with an increased incidence of thrombotic events and has demonstrated a favourable safety profile. Based on the available evidence, clinical guidelines recommend its use in bleeding patients in the context of trauma or cardiac surgery. Albeit with a lower degree of evidence, fibrinogen concentrate is also recommended in postpartum haemorrhage and bleeding during hepatic transplant.