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Preoperative plasma fibrinogen level and transfusion in cardiac surgery: a biphasic correlation

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In recent years, fibrinogen has become the cornerstone of haemostatic management. In a setting as complex and multifactorial as cardiac surgery, low preoperative plasma fibrinogen levels have been identified as a risk factor for perioperative bleeding. However, “prophylactic” preoperative fibrinogen administration remains controversial. Based on this, the authors present a single-centre retrospective study including nearly 500 patients who underwent elective cardiac surgery with cardiopulmonary bypass.

The results showed that both low (<1.5 g/l) and high (>3 g/l) preoperative plasma fibrinogen levels were associated with an increase in red blood cell transfusion. The authors suggest that high preoperative plasma fibrinogen levels may indicate a pro-inflammatory status, with possible vasoplegia and endothelial dysfunction, as well as anaemia, which would explain the increased need for red blood cell transfusion in these patients. This inflammatory status may be increased by the one produced during extracorporeal circulation.

In any case, the U-shaped relationship between plasma fibrinogen level and red blood cell transfusion hinders the establishment of a cut-off point and highlights that, to have a complete picture, other factors should also be considered.