Perioperative administration of fibrinogen does not increase adverse cardiac and thromboembolic events after cardiac surgery

J Fassl, G Lurati Buse, Miodrag Filipovic, O Reuthebuch, K Hamp, M D Seeberger & D Bolliger

BACKGROUND
Although infusion of fibrinogen concentrate is increasingly used in bleeding patients after cardiac surgery, safety data are scarce. We aimed to evaluate the effect of perioperative administration of fibrinogen concentrate on postoperative morbidity and mortality in patients undergoing cardiac surgery.

METHODS
During a 2 yr study period, 991 patients underwent cardiac surgery at a single university centre and were eligible for propensity score (PS) matching. We matched 190 patients with perioperative infusion of fibrinogen concentrate (median dose 2 g) with 190 controls without fibrinogen administration. After PS matching, crude outcome was analysed. Further, a multivariate logistic regression including additional risk factors for adverse outcome was performed. The primary endpoint was a composite of mortality and the occurrence of major cardiac and thromboembolic events within 1 yr. Secondary outcomes included mortality after 30 days and 1 yr and the composite of mortality and adverse events after 30 days.

RESULTS
The administration of fibrinogen concentrate was not associated with an increased risk for mortality and thromboembolic or cardiac events within 1 yr after cardiac surgery [unadjusted hazard ratio (HR) 0.91; 95% confidence interval (CI) 0.55-1.49; P=0.697]. When using multivariate logistic regression model, the HR for adverse outcome in patients with administration of fibrinogen concentrate was 0.57 (95% CI 0.25-1.17; P=0.101). Similarly, the administration of fibrinogen concentrate did not adversely affect the secondary outcomes when applying unadjusted and multivariate regression analyses.

CONCLUSIONS
Our study strongly suggests that the administration of fibrinogen concentrates at low dose is not associated with thromboembolic complications or adverse outcomes after cardiac surgery.
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