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eComment. The vraisemblance of haemostatic therapy for excessive bleeding after cardiac surgery

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doi:10.1093/icvts/ivs307

The work of Anerkian et al. elaborated extensively on the use of prothrombin complex concentrates (PCCs) as an 'off label' agent for excessive bleeding after cardiopulmonary bypass. Furthermore, they stated that patients treated for active bleeding with haemostatic therapy were monitored by quantifying the chest tube blood with the coagulation parameters within the first 24 h. PCC was solely administered in 24 patients (group I), fresh frozen plasma in 26 (group II) and both in 27 (group III) at a mean dose of 10.0 UI/kg ± 3.5 for group I and 14.1 UI/kg ± 11.2 for group III (P = 0.09). The re-exploration for bleeding involved 1 patient in group I (4%), 2 in group II (8%) and 10 in group III (37%) (P = 0.002) [1]. Since the use of haemostatic agents presently is mainly an 'off-label' decision, it is necessary to always obtain an informed consent from the patients, and not to assume that the attainment of haemostasis is the sine qua non for the administration.

The indices for monitoring the efficacy of the haemostatic therapy can be divided into two using the primary and secondary endpoints. The primary endpoints are taken as the time the excessive bleeding was observed to the time of chest closure from neutralization of heparin [2], the chest tube drainage, and the impact of the haemostatic agents on the clotting parameters [1-3]. The secondary endpoints are taken as the volumes of transfused blood and blood products [2] with the exception of the tested haemostatic agent, and the re-exploration rate [4].

Using the chest tube output as a way of monitoring the efficacy of the agent erroneously gives the impression that the bleeding was not attended to intraoperatively or disregarded with the inserted chest tube drainage being an indicator for intervention. Furthermore, whatever was used, conventional haemostatic means or the new haemostatic agents, the chest tube drainage will eventually abate as there is limited amount of blood in the patient at a given moment especially when the blood loss is not commensurately and timely replaced. Also, the secondary endpoints such as the volumes of transfused blood, platelet concentrates and fresh-frozen plasma, can be used for monitoring [1,2]. The lesser the amount of blood and blood products administered for the correction of the excessive bleeding, the greater the efficacy of the haemostatic agent. However, if the chest tube drainage persists in spite of both the conventional and the use of haemostatic agents, then early re-exploration should be effected and not relegated to the continual use of the haemostatic agent to stopping the excessive bleeding. From a recent review, as high as 97.2% of patients showed evidence of surgical indication for excessive bleeding or consequences of the bleeding after open heart surgery [5] and, importantly, the re-exploration rate can be a way of predicting the success or failure of the haemostatic agent [4]. As high re-exploration rate in patients after the administration of standard haemostatic agent will mean the inability of such agent to abort the bleeding or the presence of surgical bleeding and vice versa.

Conflict of interest: none declared.

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