

Thromboelastography-Based Transfusion Algorithm Reduces Blood Product Use after Elective CABG: A Prospective Randomized Study

Koray Ak, M.D.,[] Cemil S. Isbir, M.D.,[] Sermin Tetik, Ph.D.,† Nazan Atalan, M.D.,‡ Atike Tekeli, M.D.,‡ Maher Aljodi, M.D.,

Department of Cardiovascular Surgery, School of Medicine, Marmara University, Istanbul,

Methods: Patients (n = 224) undergoing elective CABG with cardiopulmonary bypass were prospectively randomized into two groups according to transfusion strategy: in group 1 (clinician-directed transfusion, n =

requirements were recorded until discharge from hospital.

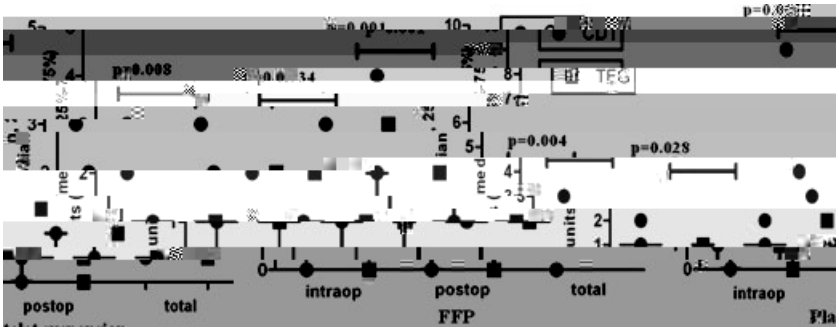

Figure 1. *Perioperative FFP and platelet suspension exposure. The data are presented as the median with 25th and 75th quartiles, the upper and the lower most points represent maximum and minimum values. CDT = clinician-directed transfusion; TEG = thromboelastography; FFP = fresh frozen plasma.*

group and none in the TEG group had an inappropriate surgical intervention for bleeding.

The median units of blood products transfused perioperatively in both groups were given in Figure 1. In comparison, while the risk of PRBCs exposure was similar between two groups, the incidence of FFP and TS transfusions was significantly reduced in the TEG group compared with the other group (Table 3). Patients in the TEG group had significantly lower median amounts of FFP and pf fpoweroperatively alasroperative)y;compared285.6(with)-2.7(the)85.6(o)0(ther)85gro.th transfusedmedianof

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transfusion algorithm without including any complex blood activators. For a kTEG analysis, it takes almost 30–45 minutes to obtain the result that was comparable to those with the standard coagulation tests. Moreover, TEG can be performed at the patient's bedside by nontechnical personnel and interpreted rapidly.

Taking the patients undergoing re-exploration for bleeding into consideration, 60% of the patients (three out of five patients) in the CDT group had an inappropriate re-exploration. In contrast, the negative predictive value of the kTEG for excessive bleeding was found to be 100% in the algorithm group. Thus, we think

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J 10. Anaesth
prAducsl: 191;38:511-5157.