



Preoperative Platelet Activation Markers as a Risk Predictor of Postoperative Atrial Fibrillation after Coronary Artery Bypass Grafting

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Abstract:

Background: Atrial fibrillation (AF) is the most well-known arrhythmia following coronary artery bypass grafting (CABG) that in turn may lead to a longer hospital stay and a worse postoperative prognoses. AF is known to be a cause of platelet activation; we investigated the relationship between the platelet activation markers and the risk of AF after coronary bypass graft surgery. **Methods:** Blood was drawn one day before the operation from fifty patients scheduled for isolated on pump CABG. The monocyte-platelet aggregates (MPAs) content were assessed by Flow cytometric quantification analysis. Moreover, soluble CD40 Ligand (sCD40L) level, soluble P-selectin (sP-selectin) and D-dimer levels were quantified by immunological ELISA technique. Post-operative AF (POAF) events were followed up during hospitalization. **Results:** Post-operative AF (POAF) noticed in 22% of patients, in the first postoperative week. Preoperative levels of both sCD40L, sP-selectin and D-Dimer were significantly higher in those who developed POAF. CD41 expression on monocytescellular marker of platelet activation- and the content of MPAs were increased in those patients encountered POAF. **Conclusion:** Preoperative platelet activation as affirmed by both soluble and cellular markers in addition to the content of MPAs markers seems to be an unprecedented predictor of the postoperative atrial fibrillation.

Keywords:

Platelet activation markers; Atrial fibrillation; CABG

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