Title: Dual Antiplatelet Therapy Up to the Time of Non-Elective Coronary Artery Bypass Grafting with Prophylactic Platelet Transfusion: Is It Safe?

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Reviewer: Eugenio Quaini

Reviewer's report:

The Authors present a retrospective single center study with the aim to assess the effect of exposure to Clopidogrel and aspirin within 5 days of surgery on post-operative bleeding, reoperation, in-hospital length of stay, mortality, and transfusion requirements, and compare the outcomes with patients who underwent CABG on aspirin alone.

The comparison between the Clopidogrel Group (126 patients with ACS who underwent urgent or emergent isolated CABG and received double antiplatelet therapy within 5 days of surgery and perioperative prophylactic platelet transfusion) and the Control group (114 patients who underwent elective CABG on aspirin alone up to the day of surgery) showed no relevant differences in several endpoints (major bleeding, reoperation rate for bleeding, in hospital mortality, blood products transfusion requirement, ICU stay). Multiple linear regression analysis showed that platelet transfusion in Clopidogrel Group was responsible of an increased hospital stay and infection rate in this group.

The Conclusions are congruent with the results reported: "CABG on DAPT is most likely feasible and safe…we suggest that ACS patients requiring CABG proceed with surgery without delay for a Clopidogrel-free period."

Some considerations:

- An increased risk of perioperative bleeding has been reported in patients who received DAPT within 5 days of surgery.

- Interruption of antithrombotic drugs prior to CABG surgery may increase the thromboembolic risk, continuation may increase the risk of bleeding.

- The challenge is to optimize the timing of surgery to minimize the risk of potentially fatal ischemic events before CABG and at the same time reduce the incidence of serious surgical bleeding.

- A 5- to 7-day washout period before CABG is recommended for patients receiving clopidogrel in guidelines.
the indications for and timing of revascularization are discussed and determined by the "Heart Team"

the indications for allogeneic transfusion are based on routine laboratory measurements of activated partial thromboplastin time, activated clotting time, and international normalized ratio of prothrombin time, as well as on fibrinogen, hemoglobin, and hematocrit levels.

the use of allogeneic blood products is influenced by the patients' hemodynamic and physiological data, as well as blood loss volume.

There is a need of a revision (more information) trying to justify the impressive data reported (in Tab 3: very low blood loss, transfusion rate equal to 0, no post-op substantial variations in hemoglobin, hematocrit and platelets level).

Informations to be added:
- surgical indication criteria for emergent urgent CABG
- aspects of surgical technique
- criteria for indication (protocol) to use allogenic blood products

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