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Preoperative platelet inhibition and bleeding after cardiopulmonary bypass

To the Editor:

Bizzari and associates[1] studied clinical events and potential bleeding complications in a group of patients who had undergone emergency or urgent cardiac surgery after treatment with tirofiban hydrochloride. They observed that patients treated with tirobifan had a smaller decrease in platelet count during cardiopulmonary bypass; other platelet suppressants have similar effects.[2,3] Preoperative platelet inhibition will reduce the platelet loss associated with cardiopulmonary bypass because a preferential loss of activated platelets is observed during the period of extracorporeal circulation.[4,5] The hemostatic function of the preserved platelets would, however, be impaired by heparin-induced plasma changes.[6]

The study was undertaken because of a concern that platelet inhibition may exacerbate bleeding after cardiopulmonary bypass. We among others have demonstrated that during cardiopulmonary bypass platelets lose the ability to form large stable aggregates (macroaggregates).[6-9] This impairment persists for several hours postoperatively.[7,8] Macroaggregation is important for platelet hemostatic function because it gives strength to a platelet plug and paves the way for clot retraction. As platelet macroaggregation is virtually abolished during cardiopulmonary bypass,[6-9] we suggest that additional platelet suppression is unlikely further to impair hemostasis or increase bleeding during the immediate postoperative period. Furthermore, after cardiopulmonary bypass platelets appear resistant to aspirin,[10] an irreversible platelet inhibitor; it is therefore unlikely that even long-acting platelet suppressants that are administered preoperatively will significantly impair platelets late in the postoperative period. This would explain why patients who received platelet suppressants shortly before undergoing surgery using cardiopulmonary bypass did not appear to bleed excessively when compared with those who did not receive these drugs.[1-3]

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Transapical aortic cannulation for acute aortic dissection with diffuse atherosclerosis

To the Editor:

We read with interest the article by Fukuda and associates[1] and congratulate them on their good results. We agree that femoral artery cannulation sometimes must be abandoned as arterial access for cardiopulmonary bypass. Recently we operated on an urgent basis on a 54-year-old man with type A acute aortic dissection. The femoral artery could not be used as arterial access because of tinea inguinalis. We chose the subclavian artery instead.

We doubt the reliability of transapical aortic cannulation in median sternotomy. We suspect that Fukuda and associates[1] happened to dodge the drawbacks of using this procedure by mere luck, because hypotension during elevation of the apex, dislocation of the cannula, incompetence of the aortic valve, and repair of the insertion site are usually inevitable. Insufficient myocardial protection because of the inability to clamp the ascending aorta and to administer cardioplegic solution remains a problem to be solved. If Fukuda and associates[1] have had experience with other