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VALVULAR HEART DISEASE

THROMBOCYTOPENIA AFTER AORTIC VALVE REPLACEMENT WITH THE FREEDOM SOLO STENTLESS BIOPROSTHESIS: A PROPENSITY-MATCHED STUDY

ACC Poster Contributions
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Background: The Freedom Solo (FS) valve (Sorin Group, Saluggia, Italy) is a new stentless aortic bioprosthesis with rapid implantation and excellent postoperative hemodynamics. Two unmatched studies have linked this bioprosthesis with decreases in early postoperative platelet count. This propensity-matched study aims to evaluate the occurrence of thrombocytopenia (TP) after FS implantation and to precise its clinical impact.

Methods: Among 693 patients who underwent aortic valve replacement between 2006 and 2008 at the University Hospital of Amiens, France, we retrospectively selected all patients with a FS valve or a Carpentier Edwards (CE) Perimount bioprosthesis (Edwards Lifesciences, Irvine, US). Exclusion criteria were: double valve replacement, redo surgery and active endocarditis. We finally included 206 patients (96 FS and 110 CE). Using propensity scores, we obtained 36 matched pairs well balanced as regard to baseline characteristics. The primary end-point was the occurrence of postoperative TP and the secondary end-points were the frequency of thromboembolic/haemorrhagic events and the 30-day mortality. Postoperative anticoagulation was similar in all patients.

Results: Patients in the FS group were older, had higher estimated mortality, higher preoperative platelet count and shorter cross-clamp time. In the overall cohort, severe postoperative TP (<30Gpt/L) was more frequent in the FS group compared with the CE group (22% vs. 1%; p<0.001), while thromboembolic/haemorrhagic events, frequency of heparin-induced TP and 30-day mortality were comparable (3% vs. 2%, p=0.37; 2% vs. 2%, p=1.00; and 4% vs. 6%, p=0.48, respectively). Preoperative platelet count (p=0.01) and FS valve (p<0.001) were independently predictive of severe postoperative TP. In the post-match cohort (n=72), severe postoperative TP was still more frequent in the FS group (25% vs. 3% in the CE group; p<0.001), while 30-day mortality was similar (3% vs. 6%; p=0.99).

Conclusions: This study provides evidence of occurrence of significant thrombocytopenia after FS valve implantation. Still unexplained, this complication was not related to any serious deleterious event in this cohort.