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EDITORIAL COMMENT

Transcatheter aortic valve implantation after previous coronary artery bypass grafting: a potential gold standard of care

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Ducrocq et al. [1] present in their article the results of 201 patients undergoing transcatheter aortic valve implantation (TAVI). The group was divided into 54 patients with previous coronary artery bypass grafting (CABG) and 147 without the
perioperative and postoperative results were compared. The authors conclude that the TAVI procedure may be an attractive option in the population of high-risk patients with aortic stenosis and previous CABG. They should be congratulated for achieving these encouraging results. Nevertheless, their article suggests several questions.

First, as shown by Tamburino et al., the rate of paravalvular leakage has an independent impact upon follow-up mortality [2]. Unfortunately, Ducrocq et al. do not present the rate of postoperative aortic insufficiency [1]. As known, the choice of valve implanted and the implantation technique will influence the rate of paravalvular leakage [3].

Ducrocq et al. state that, in the group with previous CABG, 43% received transapical valve implantation and had lower perioperative mortality, whereas in the group without previous CABG only 26% had transapical valve implantation [1]. Nevertheless, the transapical approach was an independent predictor of 2-year mortality, possibly resulting from negative selection. The choice of valve and implantation technique should not be guided only by the degree of peripheral vessel disease, but should be aimed at achieving more precise handling and positioning of the valve, resulting in a lower rate of paravalvular leakage and consequently improved early and late outcome [4, 5]. Additionally, patients with previous heart surgery often present with reduced left ventricular function. Although there was no significant difference between the groups presented by Ducrocq et al. [1], paravalvular insufficiency will influence their late mortality [2].

Secondly, in three patients, PCI on a graft was performed before the TAVI procedure as part of a staged procedure. Why does their team not perform the coronary or graft intervention during the TAVI procedure? To eliminate the risk of complications due to the pathological feature left untreated during the waiting time for the second procedure, the treatment of both pathologies simultaneously should be considered as an alternative [6]. As a matter of fact I believe that untreated coronary artery disease, in this particular cohort of patients that presents a complex co-morbidity profile, could negatively impact intraoperative and late mortality. As shown by Ducrocq et al. [1] 41% of the patients in the non-CABG group presented coronary artery disease, whereas only 15% were previously treated by PCI. Could this be interpreted as a sign of incomplete myocardial revascularization? As already emphasized, I believe not only that TAVI can be safely performed in patients with previous CABG, but also that TAVI combined with PCI should be performed to treat the most significant coronary lesion(s) that could put at jeopardy large myocardial areas [6].

As shown by Ducrocq et al. [1], TAVI is an attractive option in the population of high-risk patients with aortic stenosis and previous CABG. Future studies will show whether TAVI will become the ‘gold standard of care’ in all patients after previous heart surgery.

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