

Letters to the Editor

Vascular Sealing Implications in Transfemoral Transcatheter Aortic Valve Implantation**Implicaciones del sellado vascular en el implante percutáneo transfemoral de válvula aórtica**

Dear Editor,

In a recent issue of *Revista Española de Cardiología*, García et al¹ described their experience regarding arterial access closure after transcatheter aortic valve implantation (TAVI), utilizing routine wire insertion in the femoral artery prior to femoral artery suturing with Prostar device. Moreover, in some of their patients, a peripheral vessel balloon was inflated within the “target” femoral artery (at puncture level) after tightening of the Prostar knots in order to facilitate hemostasis. Precautionary balloon inflation above the arteriotomy site prior to Prostar knots advancement, as the authors underline, has already been described by Sharp et al² in a 57-patient cohort for TAVI with a SAPIEN (Edwards, Inc.) or CoreValve (Medtronic, Inc.) bioprosthesis and by Genereux et al³ for TAVI with a SAPIEN (Edwards, Inc.) device in a 58-patient cohort. Moreover, our heart team has recently described a modified analogous approach in a 30-patient cohort⁴ for TAVI with CoreValve (Medtronic, Inc.), with similar results. This approach guarantees an easy advancement of the balloon from the contralateral to the “target” femoral artery. Moreover, hydrostatic forces within the lumen are eliminated during inflation, facilitating stabilization of Prostar knots. However, this technique adds a financial cost; this could potentially be counterbalanced by a reduction in the need for other costly measures for obtaining hemostasis (eg, cover stents).

Despite the availability of all these techniques, there are still a few cases where vascular sealing may not be easily achieved, especially in cases of extensive vessel tortuosity or calcification.⁵ This could have catastrophic consequences in case of puncturing above the inguinal ligament. Therefore, special care should be taken in order to achieve “ideal” puncture. The solution here is two-fold. First, comprehensive preprocedural vessel evaluation with multislice computed tomography should always be conducted. Second, once the “target” artery has been chosen, special care should be taken to achieve optimal cannulation. In a recent retrospective study by our group,⁶ angiographically guided puncture below the most inferior border of the inferior epigastric artery loop resulted in fewer vascular complications. This could be attributed to the fact that such an optimal puncture refers to locations that are easily compressible (ie, against the femoral head, less fatty tissues, “away” from inguinal ligament) and to the inferior epigastric artery course along the border of the peritoneal cavity, which defines the retroperitoneal space limit.

Accordingly, we suggest that utilization of these 2 adjunctive techniques may facilitate artery closure and result in even less frequent occurrence of vascular complications. This is supported by the fact that even if additional external mechanical pressure (or other bail-out method) has to be applied, this will be rapidly

recognized and can be easily treated, at least temporarily, by intravascular balloon inflation.

In conclusion, the aforementioned technical data may be only details of the big TAVI picture; however, we do believe that even minor improvements could add incremental value in this emerging field.^{7–9}

CONFLICTS OF INTEREST

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