

Fully percutaneous transaxillary approach for transcatheter aortic valve implantation: initial experience from Split

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Background: Fully percutaneous transaxillary approach for transcatheter aortic valve implantation (TAVI) has emerged as an alternative vascular access in patients with severely diseased femoral arteries^{1,2}. To the best of our knowledge, there were no previous cases of fully percutaneous transaxillary TAVI in Croatia.

Case report: Two patients with severe symptomatic aortic stenosis and prohibitive surgical risk were evaluated. Transfemoral access was unfeasible due to extremely diseased femoral arteries. Surgeons were consulted for an alternative surgically mediated approach, but it was contemplated as unsuitable. Therefore, the patients were assigned to transaxillary TAVI. Procedural details: The procedures were conducted under the support of a highly experienced proctor in interventional cardiology. The staff received detailed instructions, and the Cath lab was specifically organized (**Figure 1**). The left radial ap-

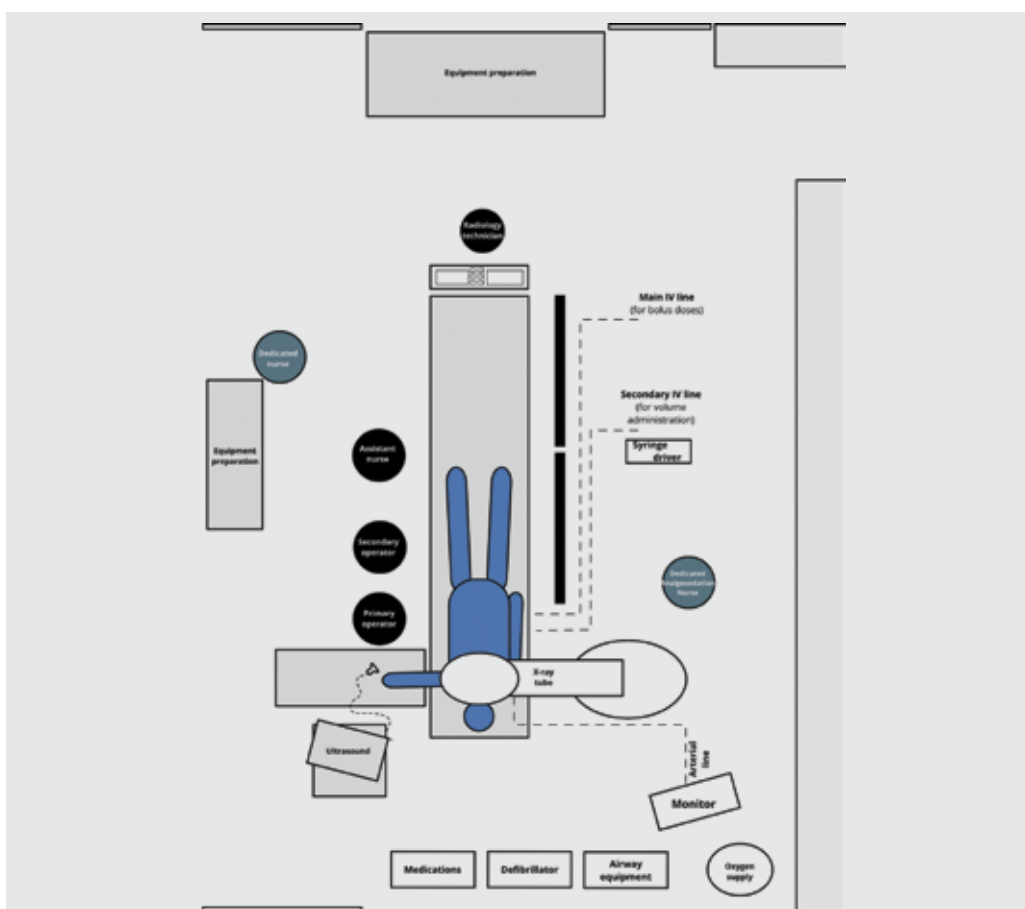


FIGURE 1. Specific organization of the Cath lab for transaxillary transcatheter aortic valve intervention.

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proach was secured for safety and guidance. The left axillary artery was cannulated using the standard set, under fluoroscopy and ultrasound guidance (Figure 2). Preclosure of axillary arteries was done using the two Perclose ProStyle™ devices, and the procedure was performed per standard local TAVI protocols³ with successful valve implantation. The closure of the axillary artery was successfully done in one patient, while the failure of the Perclose ProStyle™ system induced vessel injury and persistent bleeding in another patient. Therefore, direct manual compression and two overlapping covered stents (Viabahn® 7x50mm and BeGraft® 8x37mm) were needed to achieve full hemostasis (Figure 3), without the need for surgical intervention. Procedural benefits included conscious sedation, limited staff utilization, lack of surgical incision, reduced infection risk, and constant bail-out option. Both patients were discharged within three postprocedural days, and the follow-up period was uneventful.

Conclusions: Fully percutaneous transaxillary TAVI is a viable alternative method for selected patients if transfemoral approach is unfeasible or surgically mediated options are unavailable. Although there are several benefits of this approach, it can be associated with serious complications requiring early proctoring support, high expertise and bail-out options.

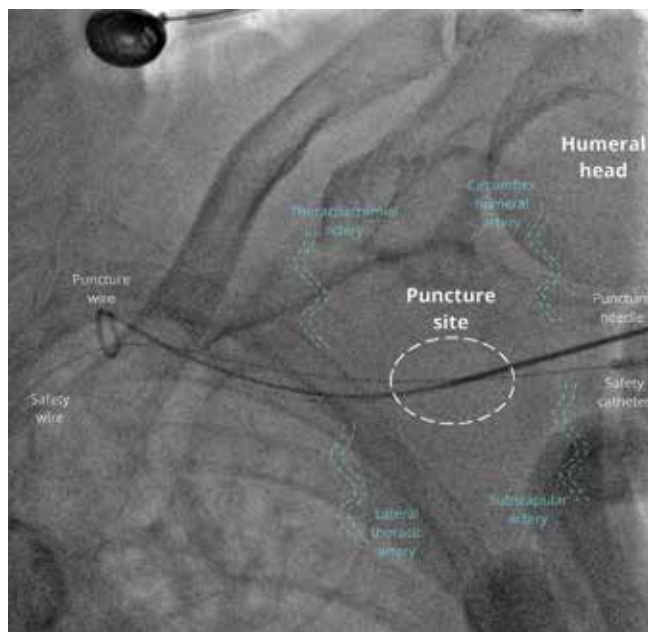


FIGURE 2. Puncture method with anatomical landmarks.



FIGURE 3. The closure and haemostasis of the axillary arteries.

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