






First BASILICA procedure in Croatia: a case report

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Introduction: Transcatheter aortic valve implantation (TAVI) is contraindicated in patients with a high risk of coronary obstruction. The Bioprosthetic or native Aortic Scallop Intentional Laceration to prevent Iatrogenic Coronary Artery obstruction (BASILICA) technique enables TAVI in these high-risk patients by creating intentional and controlled leaflet laceration prior to valve deployment¹. The procedure requires meticulous preprocedural planning and experienced operators to minimize the risks and ensure coronary flow preservation^{2,3}. This study presents the first BASILICA procedure in Croatia, successfully performed at the University Hospital of Split for a patient with intermediate-to-high risk of coronary obstruction.

Case report: 80-year-old female with critical symptomatic aortic stenosis [Vmax 4.7 m/s; MPG 60 mmHg] and high surgical risk was referred for TAVI. Preprocedural assessment revealed an intermediate-to-high risk of left coronary obstruction and sinus sequestration. Calculations revealed a low height of left coronary [9 mm] and sinotubular junction (13 mm), shallow sinuses of Valsalva [SOV-LCC 26.4 mm] and other unfavourable relevant parameters [valve-to-coronary 3.6 mm; valve-to-STJ 1.6 mm; leaflet-STJ mismatch -1.5 mm] (**Figure 1**). The right coronary artery had a higher origin and negligible risk of obstruction. The Structural Heart Team opted for a modified solo LCC-BASILICA technique after detailed preprocedural planning, including 3-dimensional printing simulation. The procedure was performed under echocardiographic and fluoroscopic guidance with operator-led analgesation.

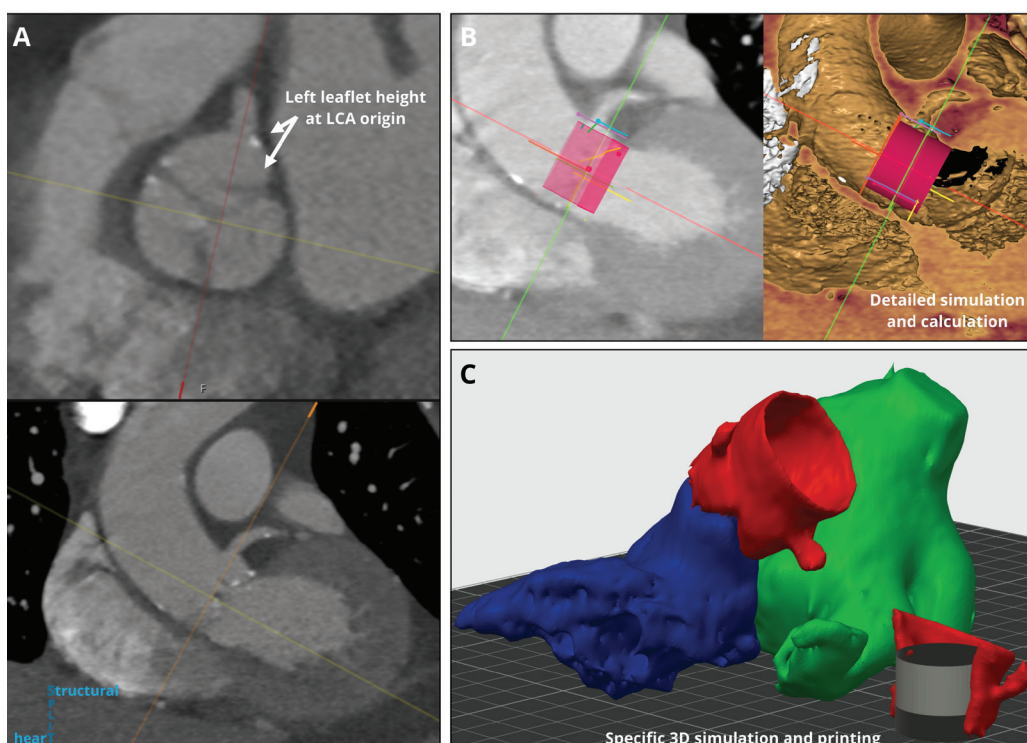


FIGURE 1. Preprocedural planning and reconstructions from cardiac computed tomography: A. Plain multiplanar reconstructions; B. Valve simulation and calculations; C. 3-dimensional simulation and printing. LCA - left coronary artery; 3D - 3-dimensional.

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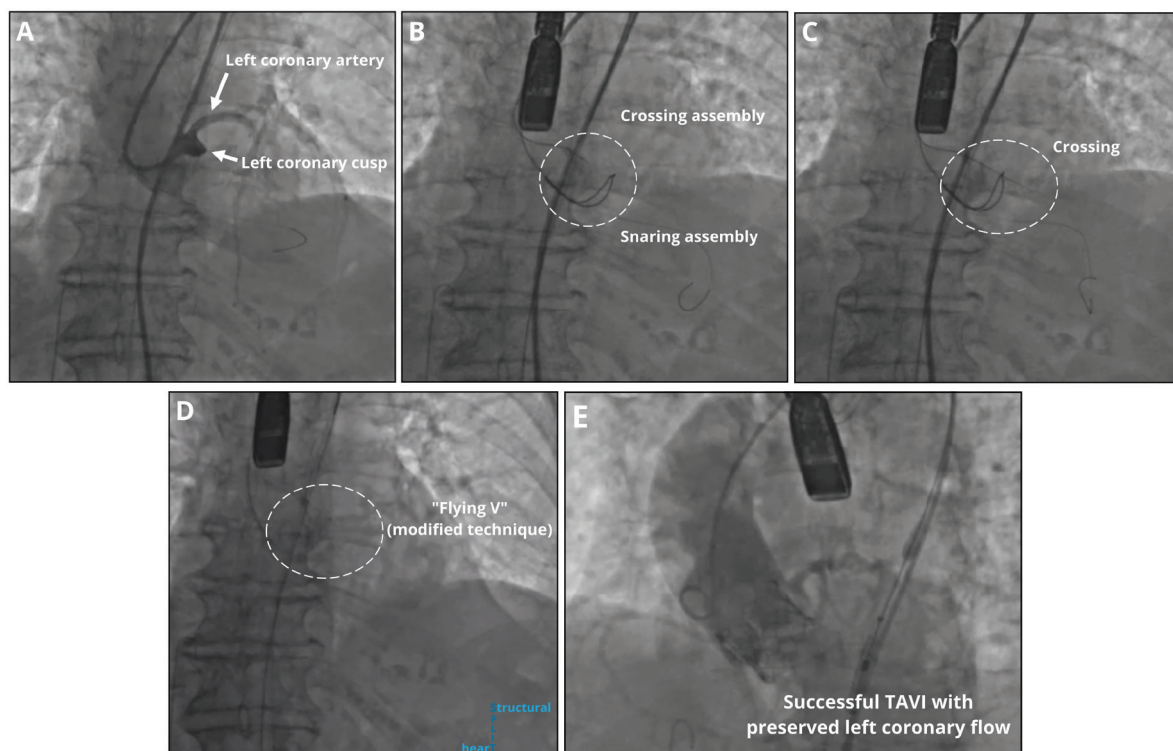


FIGURE 2. Fluoroscopic phases of the procedure: A. Equipment positioning in the left coronary cusp; B. Preparation for electrosurgical crossing; C. Electrosurgical crossing; D. Preparation for controlled leaflet laceration using the 'flying V'; E. Final successful result. TAVI - transcatheter aortic valve implantation.

Using an electrified coronary wire, successful and controlled leaflet splay was achieved, followed by TAVI [Edwards Sapien S3 Ultra Resilia 23 mm] with preserved coronary flow and optimal positioning (**Figures 2 and 3**). The patient was discharged on postoperative day 4 with uneventful follow-up at 6 months.

Conclusion: The BASILICA technique represents a viable solution for TAVI patients with high risk of coronary obstruction. It can be achieved with favourable outcomes when preceded by detailed preprocedural planning and performed by experienced operators.

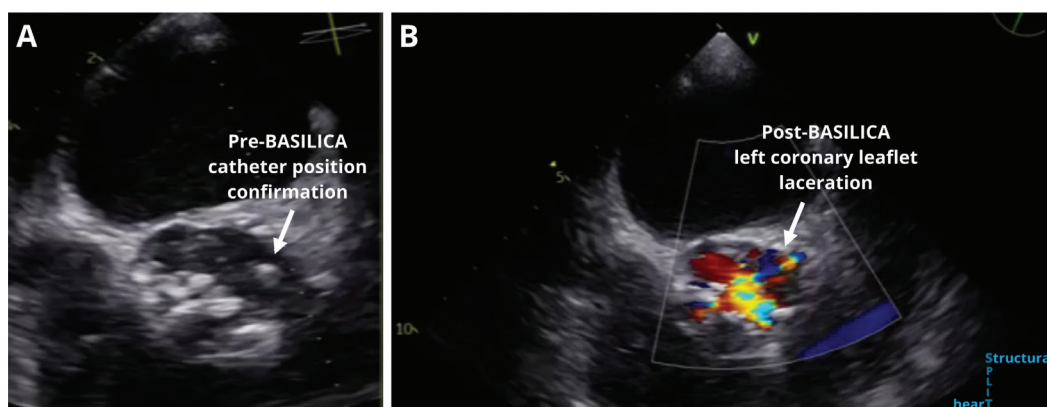


FIGURE 3. Echocardiographic images: A. Confirmation of catheter position before BASILICA; B. Confirmation of successful left coronary leaflet laceration and splay.

BASILICA - Bioprosthetic or native Aortic Scallop Intentional Laceration to prevent Iatrogenic Coronary Artery obstruction.

LITERATURE

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