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Challenging coronary cannulation after self-expandable transcatheter aortic valve: The distal anchor-guide catheter extension sliding technique

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Challenging coronary cannulation after self-expandable transcatheter aortic valve: The distal anchor-guide catheter extension sliding technique

Short title: Distal anchor-guide catheter extension sliding technique after TAVR

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A 71-year-old male with previous coronary artery bypass graft, multiple percutaneous coronary interventions (PCI) and, a transcatheter aortic valve replacement (TAVR) performed during 2019 with a Evolut R 29 mm (Medtronic, Minneapolis, MN, US), was admitted for refractory angina. The selective coronary cannulation (CC) was impossible due to the metallic valve stent frame, while a semiselective angiography permitted to observe severe stenosis in both mid right coronary (RCA) and ostial circumflex (CFX) arteries (Figure 1A–B). Then, with a floating AL 1 6 F guide catheter (GC), we performed a flying-wire advancement in the RCA (Supplementary material, *Video S1*). After anchoring a 2.0/15 mm balloon in the mid RCA, we gently slided a 6 F guide catheter extension (GCE) over this wire into the proximal RCA that we named distal anchor - GCE sliding technique (Figure 1C, Supplementary material, Supplementary material, *Video S2*). After this manoeuver, two overlapping stents were successfully implanted in mid RCA (Figure 1D, Supplementary material, *Video S3*). The same technique using the same AL 1 6F GC, was successfully used to stent the left main-proximal CFX (Figure 1E, 1F, Supplementary material, *Video S4* and *S5*).

CC after TAVR represents a main issue and unsuccessful CC was reported up to 7.7% of patients after TAVR [1]. The initial orientation of some transcatheter heart valves (THV) such as Evolut in some configurations improved the commissural alignment and reduced the risk of coronary artery overlap [2]. Recently, a study reported that patients with misaligned supra-annular THV, low sinus of Valsalva and higher THV-sinus of Valsalva relation are at highest risk of impaired CC after TAVR [3]. Although the use of GCE has been recently described after TAVR in a small case series [4], a lack of standardization in the use of GCE is common among operators. In this case, the combined use of a flying wire advancement and the distal anchor — GCE sliding technique may have a key role in facilitating both CC and PCI equipment delivery.

Supplementary material

Supplementary material is available at https://journals.viamedica.pl/kardiologia_polska.

Article information

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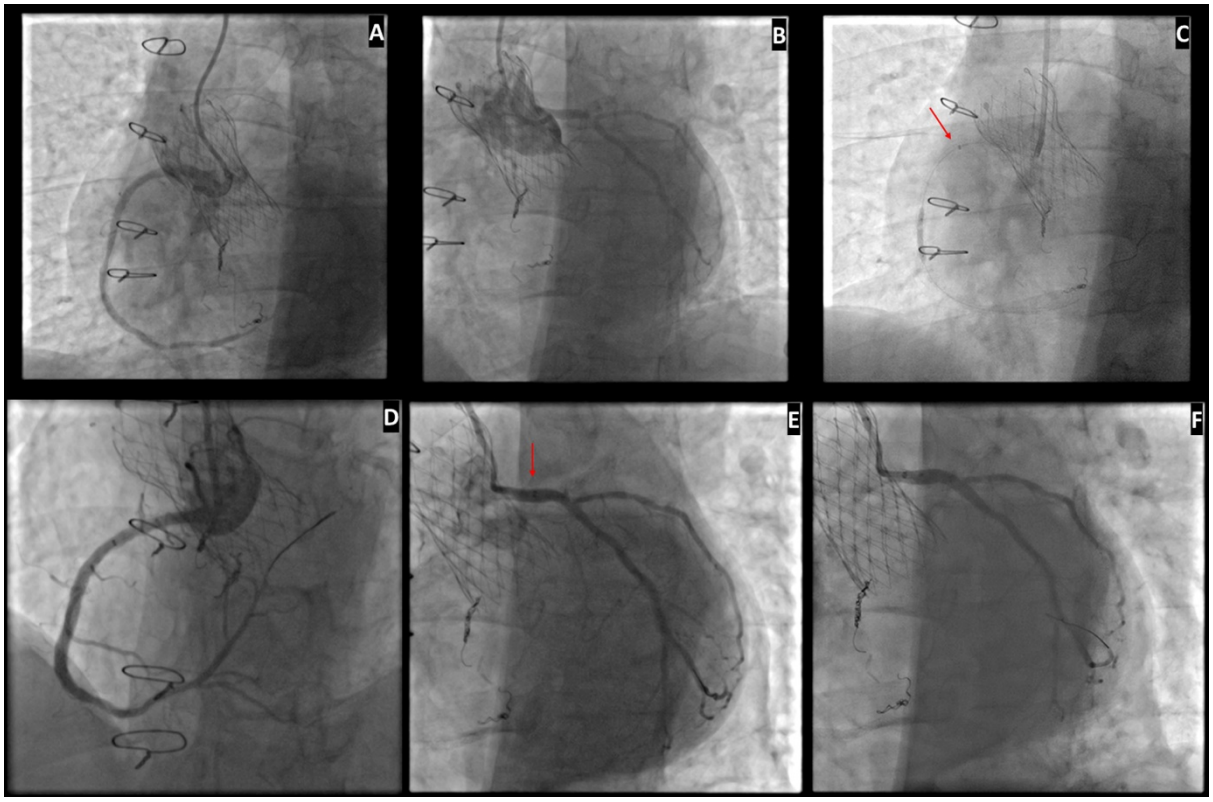

Figure 1. A–B. Semiselective angiography shows severe stenosis of both mid RCA and ostial CFX artery. **C.** Anchoring balloon in mid RCA and simultaneous advancement of GCE in proximal RCA (the red arrow). **D.** Final angiographic result after two overlapping stents in mid RCA. **E.** Selective engagement of left main with GCE (the red arrow). **F.** Final angiographic result after stent implantation in the left main-proximal CFX artery

Abbreviations: CFX, circumflex artery; GCE, guide catheter extension; RCA, right coronary artery