# Interventional cardiology in a complex patient – a case report

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**Introduction**: Transcatheter aortic valve implantation (TAVI) is the optimal solution for many patients but requires procedure planning and prediction of possible complications. Sometimes, a permanent pacemaker must be implanted during or after the procedure. Therefore, preoperative implantation is indicated in high-risk patients, especially if other indications are also present[1].

**Case report**: 80-year-old patient came to the Emergency Department of University Hospital Centre Rijeka due to difficulty breathing and exercise intolerance. Acute heart failure was diagnosed with the bifascicular block and intermittent second-degree atrioventricular block Mobitz type I (**Figure 1**). Earlier documentation and a two-week discharge letter from another institution have shown numerous percutaneous interventions of all coronary arteries, as well as peripheral arterial disease and severe aortic stenosis with the low flow-low gradient phenomenon. Left ventricular ejection fraction (LVEF) was 37%. The last coronarography two weeks ago showed significant stenosis of the ostium of the left anterior descending artery (LAD - 70%) with tubular stenosis of the left main trunk (LM - 50%) and stenosis of the circumflex artery ostium (LCx - 50 - 60%). Instantaneous wave-free ratio (iFR) suggested hemodynamically insignificant stenosis of LCx ostium (0.93). In the same act, percutaneous coronary intervention (PCI) of the middle LCx was performed due to subocclusive stenosis. The patient's case should have been presented to the Heart team, but he was urgently hospitalized. A device for cardiac resynchronization therapy (CRT-P) was implanted, and subsequent hospitalization was arranged in six days for coronarography and TAVI procedures. At the beginning of the procedure, a calcified 90%

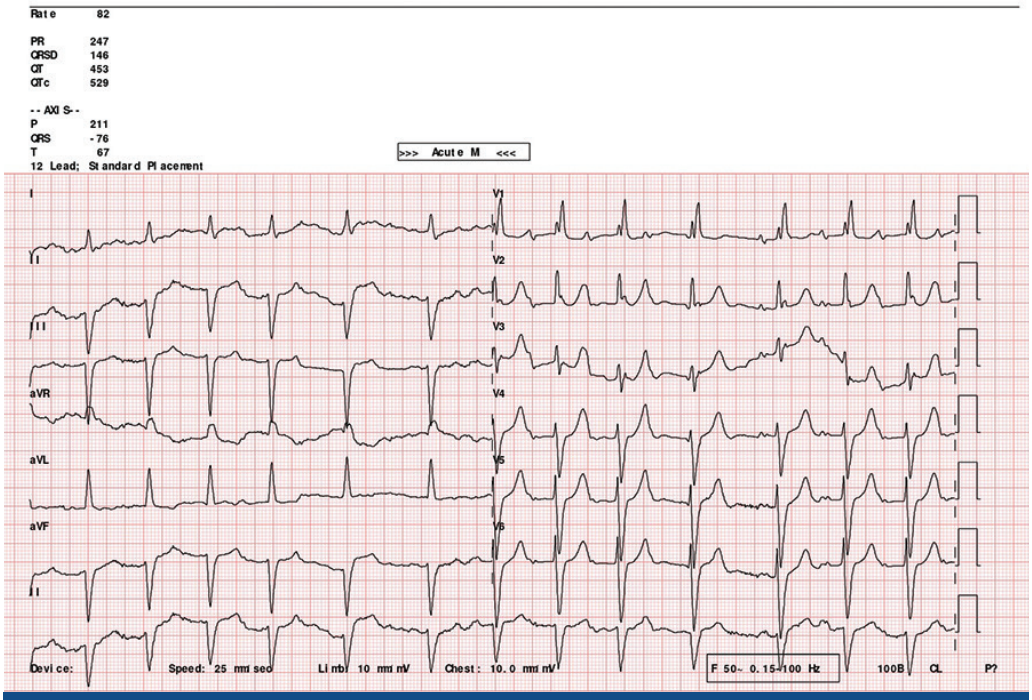


**FIGURE 1. Bifascicular block and intermittent second-degree atrioventricular block Mobitz type I.**

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stenosis was shown in the previously placed stent of the left external iliac artery, and dilation was performed (**Figure 2**). Then, significant stenoses of the ostium and proximal LCx and the distal LM and proximal LAD were observed. Successful PCI LM/LAD/LCx was performed (**Figure 3**), and afterward, the TAVI procedure was continued. The Evolut R prosthesis was implanted in the proper position and function (**Figure 4**). The patient was discharged in good general condition. At the follow-up ultrasound three months after the procedure, LVEF recovery was observed at 55%, and the patient felt much better. The next check-up was in half a year, the patient had no symptoms.

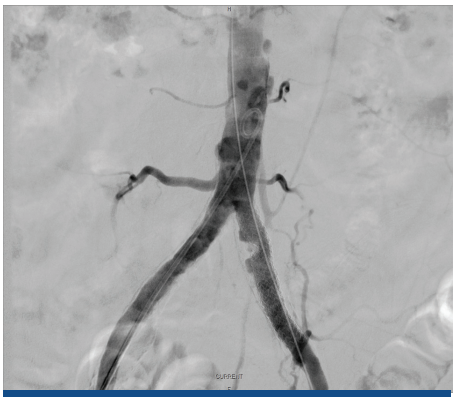

**FIGURE 2. Calcified 90% stenosis in the previously placed stent of the left external iliac artery.**

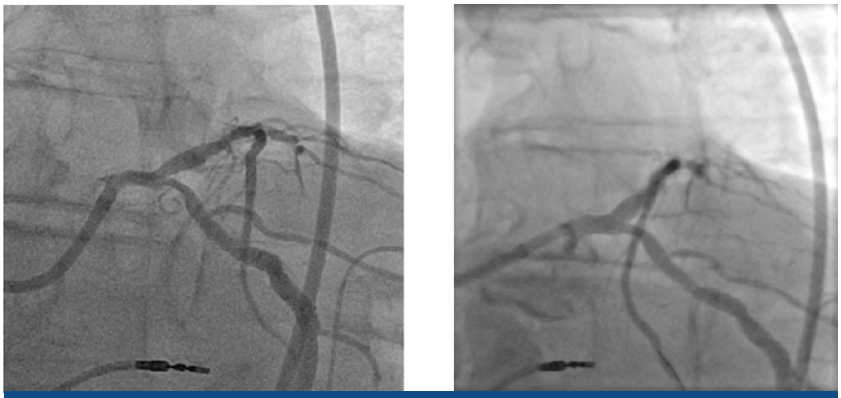

**FIGURE 3. Before and after successful percutaneous coronary intervention of the left main trunk, the left anterior descending and the circumflex artery**

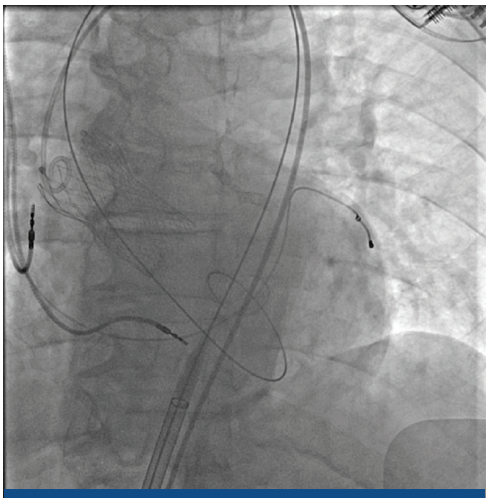

**FIGURE 4. Proper position and function of the Evolut R prosthesis.**

**Conclusion:** Complex cardiac interventions require detailed preparation, especially in fragile elderly patients. In some patients, expedited interventional treatment is needed to prevent the irreversible progression of symptoms.

## LITERATURE

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