

Non-ST elevation myocardial infarction related to critical left main stenosis in a patient after transcatheter aortic valve implantation

Zawał serca bez uniesienia załamka ST spowodowany krytycznym zwężeniem pnia lewej tętnicy wieńcowej u pacjenta po przezcewnikowym wszczępieniu zastawki aortalnej

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Transcatheter aortic valve implantation (TAVI) is an alternative treatment for high-risk patients with severe aortic stenosis. Approximately, 52–68% of these patients have coronary artery disease as well. That may have a negative impact on procedural and long-term outcome, thus revascularisation should be considered prior to TAVI because the presence of the valve may increase the complexity of percutaneous coronary intervention (PCI). With the following case report we presented PCI of the left main coronary artery (LMCA) post TAVI. A 79-year-old female was admitted to the emergency department because of non-ST elevation myocardial infarction (NSTEMI); the patient's GRACE risk score was 147 points. Her medical history included a history of PCI of right coronary artery (RCA) with three drug-eluting stents (DES) (August 2012) and TAVI with CoreValve implantation (September 2012). Coronary angiography revealed a 99% stenosis of the proximal LMCA with a TIMI 1 flow (Fig. 1) and without any significant stenosis in the RCA. Hence, the strategy was to perform urgent PCI of the LMCA. A Judkins Left Catheter 6-Fr 4.0 (Cordis Corp., Johnson & Johnson, Miami Lakes, FL, USA) was used, and a hydrophilic guidewire (Pilot 50, Abbott Vascular, Santa Clara, CA, USA) passed the lesion to the distal left circumflex. Direct stenting of the LMCA was performed (4.0 × 12-mm DES, Promus, Boston Scientific, Natick, MA, USA) with good angiographic results; final TIMI 3 flow and no residual stenosis (Fig. 2). At 1-month follow-up the patient remained asymptomatic, and angiography showed a well-expanded stent without significant residual stenosis (Fig. 3). Myocardial infarction in patients with implanted TAVI is challenging to treat using PCI. Furthermore, in those cases the procedure is complex due to the presence of the self-expandable nitinol cage of the CoreValve covering the coronary ostia. The valve struts may pose a problem during the guide catheter engagement into the LMCA. In some cases it is easier to use the telescopic technique, which improves the backup force of the guiding catheter. Fortunately, in this particular patient we successfully used a 6 Fr JL 4.0, which gave proper backup. The relation of the valvular prosthesis to the NSTEMI in this case cannot be excluded, perhaps due to the presence of the calcified native leaflet pressed against the coronary sinus by the valve. This case shows that interventional cardiologists should expect to perform urgent PCI in patients with previously implanted transcatheter valves, which may increase the procedural complexity.



Figure 1. Coronary angiography, caudal 3, left anterior oblique 3

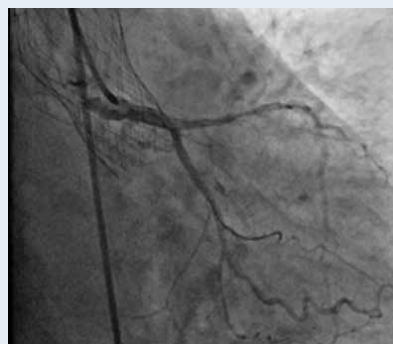


Figure 2. Coronary angiography, caudal 24, right anterior oblique 13

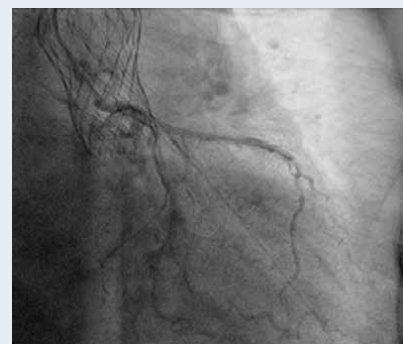


Figure 3. Coronary angiography, caudal 14, right anterior oblique 36

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