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## Successful rotational atherectomy of the left main coronary artery after transcatheter aortic valve replacement with CoreValve bioprosthesis

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Coronary intervention in a patient with a TAVR has been proven difficult in engaging the coronary ostia. Our report showcases the first description of rotational atherectomy of the LMA in a patient status-post CoreValve TAVR. A 73-year-old-male with a history of CABG and recent TAVR for severe aortic stenosis presented with worsening exertional shortness of breath and chest pressure. Coronary angiography revealed 90% mid-distal LMA disease. We advanced a whisper wire into the LMA through a JL4 guide though the catheter could not engage the ostium due to the valve struts. Attempts to deliver a 2 mm balloon into the LMA failed due to inadequate support. At this point we went for externalization of the antegrade wire through the SVG to get better support. Using a Corsair catheter and a Grand Slam wire we were able to advance the wire through the LMA into a retrograde guide at the ostium of the SVG to the diagonal. The wire was then switched for an RG3 wire which was externalized. Despite having established a good rail, we were unable to seat the antegrade guide at the ostium of the LMA due to the CoreValve struts. We were able to deliver a 1.5 mm bur through the antegrade guide over the externalized wire due to the excellent support provided by the wire. Once the bur with the sleeve was past the valve stent struts into the ostium of the LMA we performed rotational atherectomy at 150-160 K rpm with good results. Subsequently the procedure was completed with placement of a drug eluting stent. Presence of a transcatheter aortic valve complicates PCI due to obstruction of coronary ostia by valve struts. Atherectomy can also excessively whip if the guiding catheter is not close enough to the ostium to provide sufficient support. Our case demonstrates that rotational atherectomy through CoreValve stent struts is feasible with adequate support.

Figure 1: Wire rail from antegrade approach through the left main coronary artery through the diagonal branch and into the retrograde guide at the ostium of the vein graft to the diagonal.

**Recent Publications:**

1. Greenberg G and Kornowski R (2013) Coronary angioplasty after self-expandable transcatheter aortic valve implantation. J Invasive Cardiol 25(7):361-3.
2. Htun W W, Grines C and Schreiber T (2017) Feasibility of coronary angiography and percutaneous coronary intervention after transcatheter aortic valve replacement using a Medtronic TM self-expandable bioprosthetic valve. Catheter Cardiovasc Interv. 00:1–6.
3. Huczek Z, Grodecki K, Rymuza B, Kochman J, Filipiak K J and Opolski G (2016) Successful percutaneous coronary intervention after transcatheter aortic valve implantation with CoreValve bioprosthesis 12(44):175-176.
4. Lee M S, Shlofmitz E, Kong J, Srivastava P K, Yaseen S A, Sosa F A, Gallant M and Shlofmitz R (2017) Outcomes of patients with severely calcified aorto-ostial coronary lesions who underwent orbital atherectomy. J Intervene Cardiol 1-6.
5. Htun W W, Grines C and Schreiber T (2017) Feasibility of coronary angiography and percutaneous coronary intervention after transcatheter aortic valve replacement using a medtronic self-expandable bioprosthetic valve. Catheter Cardiovasc Interv. 00:1–6.

## Biography

Nareg Minaskeian is currently a second year fellow at University of California San Francisco. His enthusiasm and strong work ethic have guided his involvement in research and activities which have led to multiple publications, abstracts and presentations at various national meetings including oral presentations. After training, he'd like to join an academic institution where he can continue to pursue his passion for academia, research, and teaching.

**Notes:**