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Case Report
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Valve-in-Valve Transcatheter Aortic Valve Implantation of an Evolut R in a Degenerated Lotus Valve

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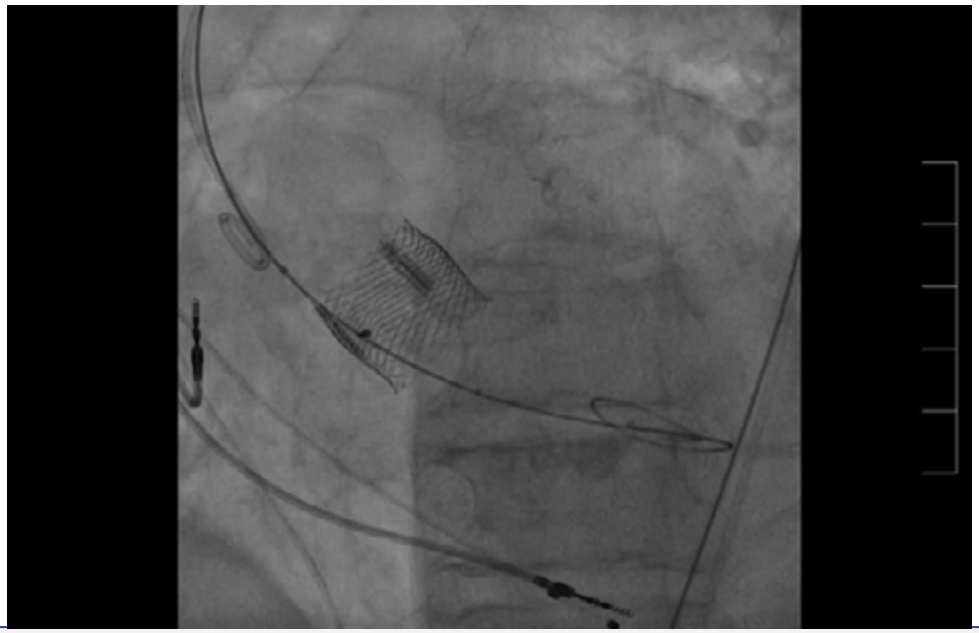
Case Report

Degeneration of bioprosthesis also occurs in transcatheter aortic valve implantation. Treatment option in severe bioprosthetic failure is either surgical aortic valve replacement or transcatheter valve-in-valve implantation. Information about feasibility and outcome of the latter interventions is sparse.

In November 2016, a 79-year old lady received a transfemoral transcatheter aortic valve implantation with a Boston Scientific Lotus valve (23mm) suffering from symptomatic aortic stenosis. Intraoperatively, a permanent pacemaker was implanted due to an AV block grade III. A gradient of 27/18mmHg was measured at discharge. Exactly two years later, in November 2018, she represented with severe dyspnea. Echocardiography revealed a degenerated TAVI-bioprosthesis with an orifice area of 0.8cm^2 and a Pmax/mean of 90/50mmHg. Due to the restricted condition and comorbidities of this patient (logistic EuroSCORE I 32.75%) a valve-in-valve procedure was discussed. Meticulous planning including coronary angiography and CT-scan revealed an inner valve diameter of 18mm, a height of 20mm, uncritical coronary anatomy without risk of obstruction and a possible transfemoral approach. After deliberate assessment a Medtronic Evolut R 23mm seemed to fit best in this case. The valve-in-valve procedure was performed under general anesthesia. Predilation with a 20mm Balloon was performed for sizing confirmation (Video 1). Thereafter a Medtronic Evolut R 23mm was implanted uneventfully into the Lotus valve (Figure 1 & Video 2). After implantation the valvular gradient decreased to 0mmHg. Post-implantation angiography showed no aortic regurgitation and instant staining of both coronary arteries (Video 3). The patient was discharged with clear improvement. This is the first case of a successful valve-in-valve of a Medtronic Evolut R into a degenerated Lotus valve. The procedure can be done safely and easily with a good result.



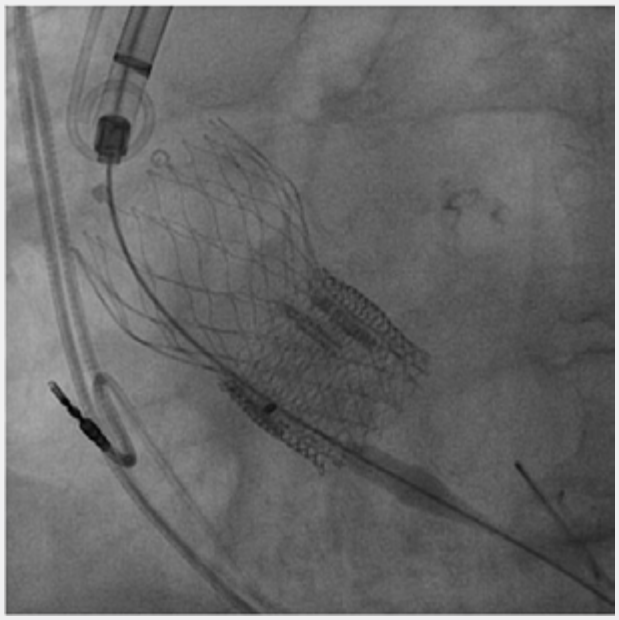
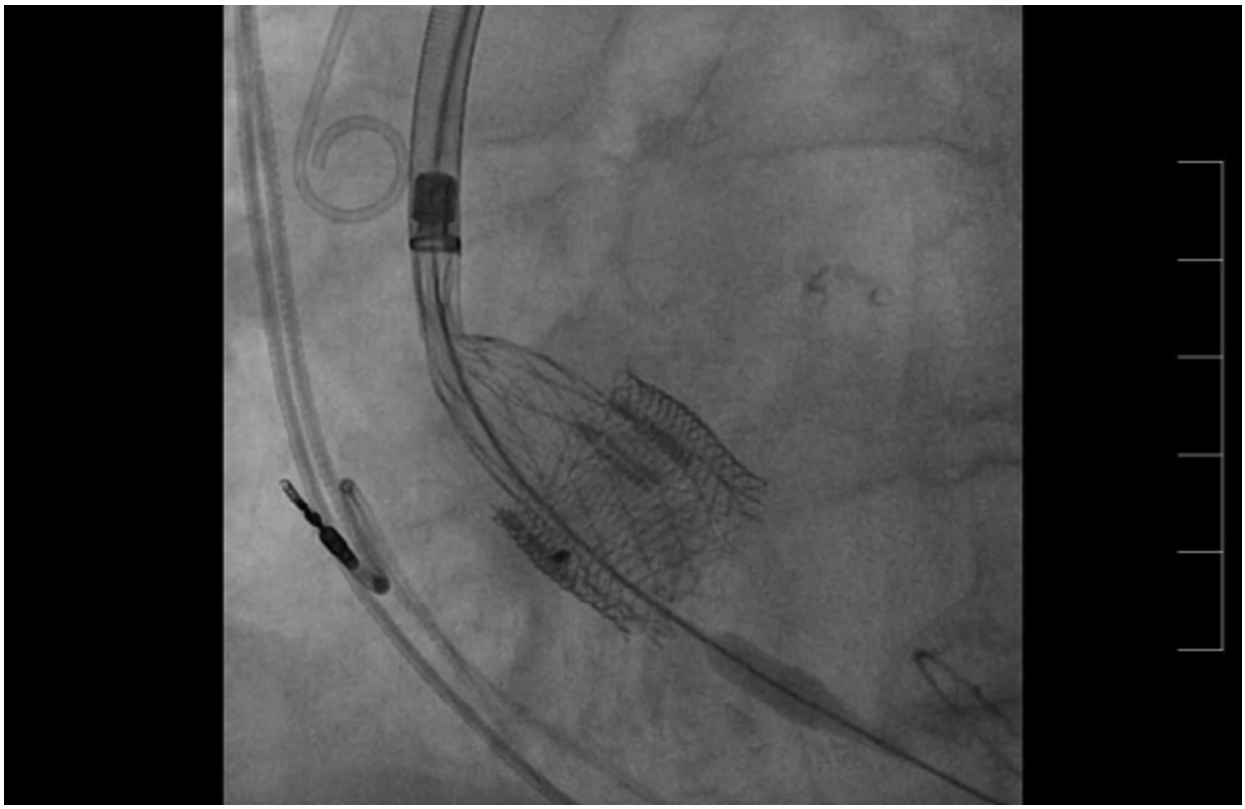


Figure 1:



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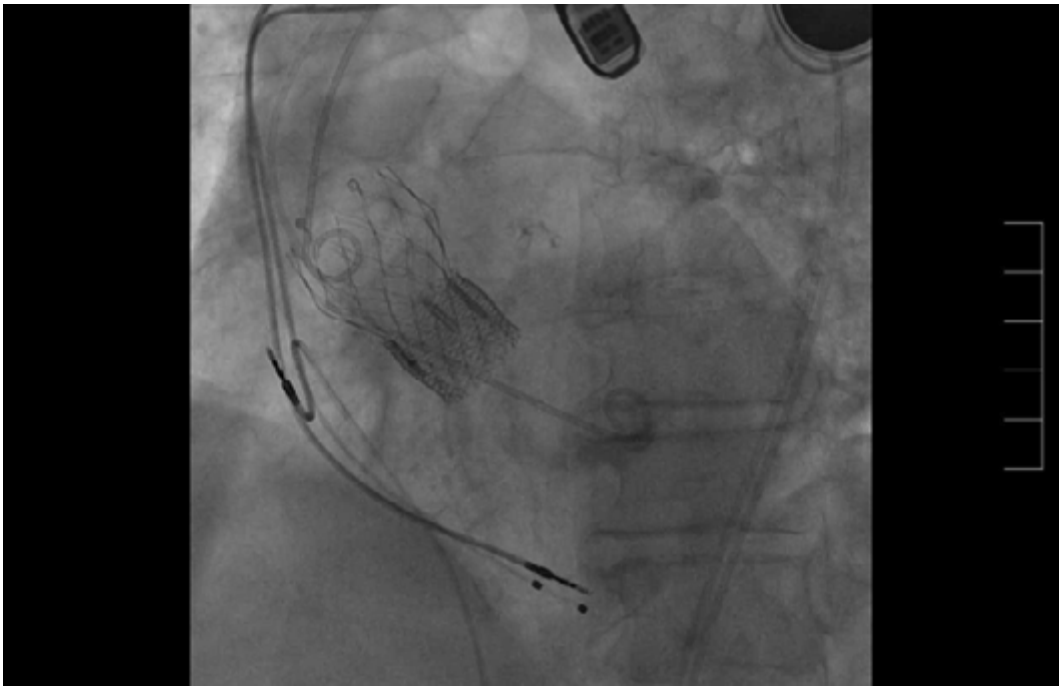

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