Structural valve deterioration of a Corevalve prosthesis 9 months after implantation

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An 82-year-old male patient underwent transfemoral aortic valve replacement (Medtronic CoreValve, 26 mm) as a valve-in-valve procedure 9 months ago. Previous history included aortic valve implantation for severe aortic stenosis (St Jude Epic, 23 mm) 2 years ago. At present, the patient was referred with the diagnosis of patient prosthesis mismatch (PPM) and severe aortic stenosis. Echocardiography detected a peak transvalvular pressure gradient of 95 mmHg, valve orifice area of 0.6 cm² and severely calcified leaflets of the CoreValve prosthesis. The patient underwent successful open surgical aortic root replacement (Medtronic Freestyle, 25 mm). Root replacement was indicated to avoid recurrent PPM. The ‘CoreValve-Epic-Corpus’ was extracted in Toto (Panels A and B). Histopathology detected severe structural valve deterioration, as well as giant cell inflammation with evidence of endocarditis. PPM should be considered when planning valve-in-valve transcatheter procedures due to the potential risk of accelerated structural valve degeneration.

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