

# Hemolysis due to stuck valve leaflet after transcatheter valve-in-valve mitral procedure – A case presentation

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We present a case of an 81-year-old woman with a symptomatic severe mitral valve regurgitation combined with a grade II mitral valve stenosis due to a biological prosthesis degeneration - size 29mm.

The patient underwent a double valve replacement 16 years ago and the aortic bioprosthesis was competent.

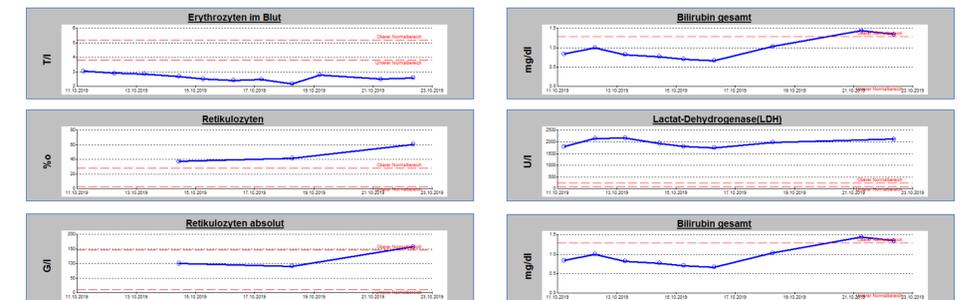
Secondary diagnosis were: paroxysmal atrial fibrillation, left bundle branch block, arterial hypertension, pulmonary hypertension (sys PAP of 55 mmHg), persistent pleural fistula.

The initial echocardiography in the peripheral hospital showed a severe dysfunction of the mitral valve with signs of vegetations like in endocarditis.

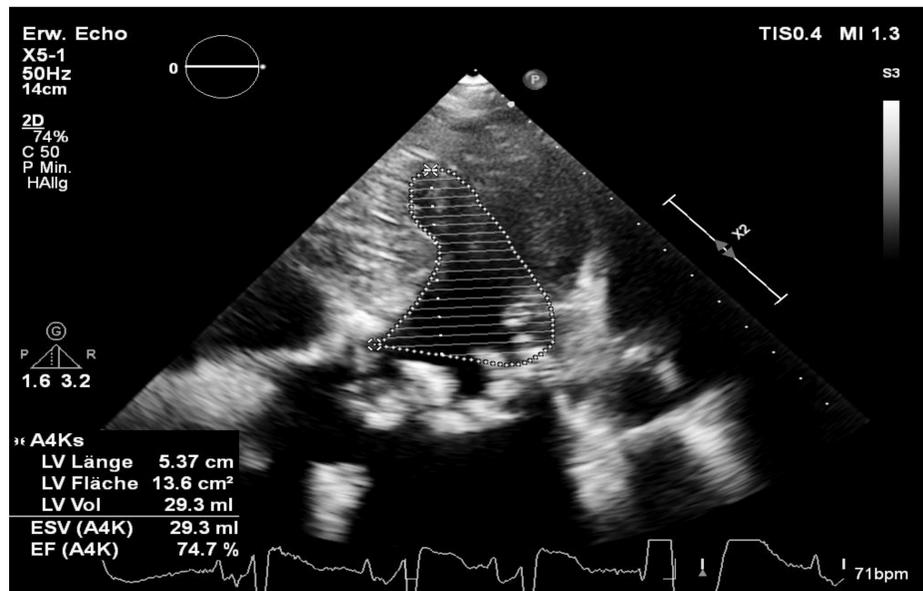
Due to age and high operative risk the decision for transapical mitral valve-in-valve intervention was made.

A 29mm balloon-expandable bioprosthesis was implanted.

The days after the patient showed up with anemia and needed repeated blood transfusions with signs of severe hemolysis in laboratory. She also suffered from acute renal impairment. In a control echocardiography the eccentric insufficiency-jet reappeared combined with stenosis with 4mmHg. This was associated to a stuck leaflet of the mitral prosthesis next to the bioprosthetic aortic valve.



Laboratory parameters between first intervention and reoperation



Pre-operative diagnostic TTE: control in center  
Competent aortic bioprosthesis mean PG 5mmHG, AORA 1.55cm<sup>2</sup>  
Mitral valve shows calcifications, degenerative and post-endocarditis signs with additional two structures of 5-6mm in diameter (vegetations DD thrombus), dysfunction with regurgitation Grade III and stenosis Grade II, mean PG of 7mmHg

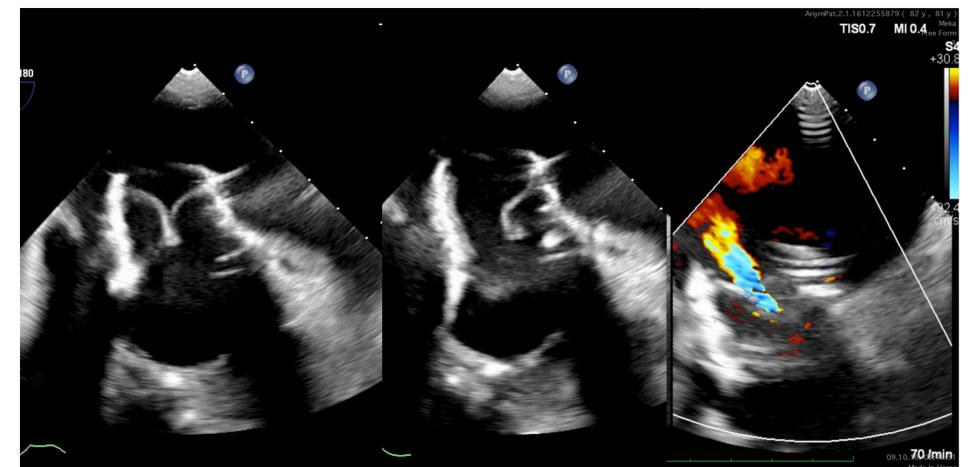


Initial expansion and TEE control with the finding of an underexpanded valve and transvalvular leakage



Secondary balloon valve expansion, prosthesis still not 100% expanded

After initial expansion, the valve showed an eccentric transvalvular leakage due to underexpansion of the anterior part of the valve probably due to the existence of the aortic bioprosthesis. A secondary balloon-inflation with +4ml was performed. After that the patient left the operation theatre with a good functioning valve with minimal paravalvular leakage.



Control echocardiography few days after valve-in-valve intervention

The patient underwent reoperation for sustained hemolysis. The underexpansion of the mitral valve associated with the presence of the aortic bioprosthesis was confirmed. The operation – a mitral valve replacement - was successful and the patient was discharged after six weeks of hospitalization.

**Mitral valve-in-valve at the presence of an aortic valve prosthesis can potentially be associated with valve underexpansion which may lead to valve dysfunction.**