

A complicated course of *Salmonella* endocarditis leading to heart transplantation

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A 39-year-old woman with symptomatic severe mitral regurgitation due to myxoid valve disease was admitted to the cardiac surgery department (Figure 1A–B; Supplementary material, Video S1). She underwent mitral valve repair (posterior leaflet P2 segment resection followed by annuloplasty). Preoperative left ventricular ejection fraction (LVEF) was 65%. The perioperative course was uneventful.

Due to a prolonged fever (with no other symptoms), 6 weeks after the surgery, transthoracic and transesophageal echocardiography revealed a giant, mobile vegetation attached to the mitral annulus (Figure 1C; Supplementary material, Video S2). Furthermore, a smaller vegetation and perforation of the non-coronary cusp of the aortic valve were observed. The blood cultures revealed *Salmonella enterica* ssp. The patient initially did not give consent for reoperation and was treated with ceftriaxone and trimethoprim/sulfamethoxazole based on an antibiogram. The fever resolved, however, despite 6 weeks of antibiotic treatment, vegetations persisted and an acute spleen embolism was diagnosed. Finally, urgent reoperation was performed — mechanical mitral and aortic valves were implanted with the aorto-mitral curtain reconstruction using CorMatrix (commando procedure). Blood cultures repeated after surgery revealed persistent infection with the same bacteria, and antimicrobial treatment was continued. Despite that, a series of transesophageal echocardiography studies revealed recurrent vegetations on the mitral valve prosthesis (Figure 1D; Supplementary material, Video S3) and a significant

paravalvular leak caused by laceration of the CorMatrix patch (Figure 1E–F; Supplementary material, Video S4–5). LVEF was 45%.

Three months after the second surgery, due to persistent endocarditis and significant paravalvular leak, the Heart Team decided on the third operation — this time biological mitral valve and aortic homograft were implanted. The perioperative period was complicated by acute heart failure, treated with temporary extra corporeal membrane oxygenation (ECMO) support, inotropic therapy (dobutamine, milrinone), and intravenous loop diuretics. Immediately after cardiac surgery, LVEF severely decreased to 20% with an improvement to 40% at discharge, but persistent severe right ventricular failure was observed.

After several weeks, normalization of inflammatory markers and negative blood cultures were observed. The patient was qualified for a heart transplant and received the graft several months later. Two years after the heart transplantation she remains stable, with functional New York Heart Association class II.

Cardiovascular complications of salmonellosis are rare and occur in fewer than 5% of patients with *Salmonella* bacteremia. There are only a few reports in the literature describing myocarditis, pericarditis, or mycotic aneurysm [1–5]. Most of them are caused by immune deficiency in the course of lupus erythematosus, corticosteroid therapy, or human immunodeficiency virus (HIV) infection. None of the above risk factors were found in our patient. Nonetheless, the course was very severe with massive destruction of cardiac

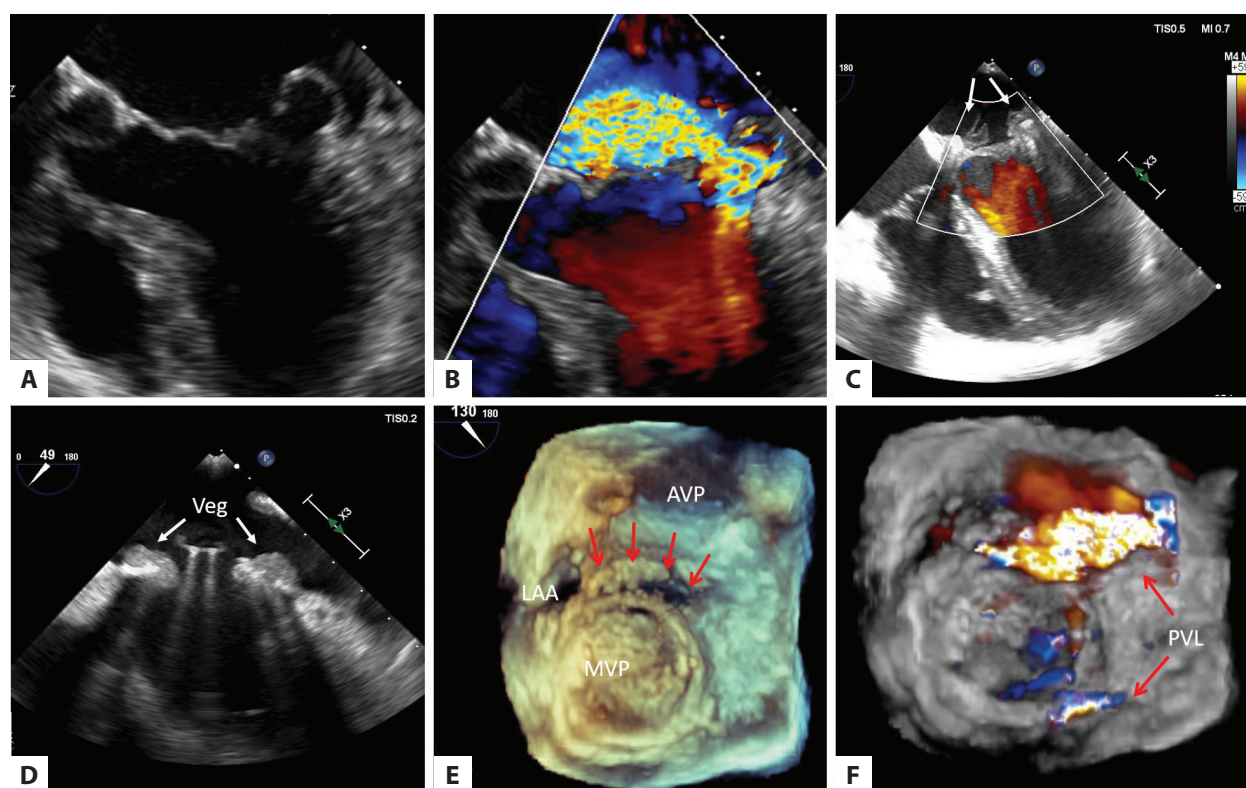


Figure 1. Transesophageal echocardiography: **A–B.** Preoperative study showing posterior mitral leaflet prolapse with severe MR; **C.** Control study post mitral valve repair — there is no MR but massive vegetations (Veg) are visible (the white arrows); **D–F.** Next study after AVP and MVP implantation and CorMatrix reconstruction of the aorto-mitral curtain — recurrence of endocarditis and PVLs are visible (the red arrows). Abbreviations: AVP, aortic valve prosthesis; LAA, left atrium appendage; MR, mitral regurgitation; MVP, mitral valve prosthesis; PVL, paravalvular leak

tissues, several reoperations, mechanical support, and cardiac transplantation.

Supplementary material

Supplementary material is available at https://journals.viamedica.pl/kardiologia_polska

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