Infective endocarditis after transcatheter aortic valve replacement: a case report

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Introduction: Prosthetic valve endocarditis is the most severe form of IE and occurs in 1–6% of patients with valve prostheses, which is similar following transcatheter (transcatheter aortic valve implantation, TAVI) or surgical aortic valve replacement.[1] The diagnosis of IE post-TAVI is challenging. Enterococcus species are most common microorganisms involved in IE post-TAVI.[2]

Case report: We present the case of a 79-year-old male who underwent a TAVI procedure for severe aortic stenosis in September 2021. In March 2022, he was admitted to our institution with persistent fever. Serial blood cultures yielded Enterococcus faecalis, and transesophageal echocardiography (TEE) revealed suspected small vegetations on the bioprosthetic valve. The patient received a six-week course of ampicillin and ceftriaxone. In May 2022, he was readmitted due to fever and right wrist swelling. Blood cultures and joint fluid analysis were positive for *Enterococcus faecalis*. Transthoracic echocardiography and TEE demonstrated findings consistent with the prior episode. A six-week regimen of ampicillin and gentamicin was administered. Due to recurrent febrile episodes and an embolic event, the patient was evaluated by cardiac surgeons, who recommended continued antibiotic therapy. A positron emission tomography (PET) scan was performed[3] but showed no pathological tracer uptake in the valve or paravalvular region, no peripheral embolic lesions, and no evidence of other metabolically active disease. In July 2022, the patient was again admitted with septic arthritis of the right wrist and febrile episodes, with blood cultures once more positive for *Enterococcus faecalis*. Despite antibiotic therapy, recurrent bacteremia prompted a comprehensive re-evaluation. Ultimately, colonoscopy revealed rectal adenocarcinoma (CRC). The patient was subsequently managed with oncologic treatment, including radiotherapy, chemotherapy, and surgical resection. Following CRC treatment, he experienced no further episodes of prolonged fever.

Conclusion: This case highlights the diagnostic complexity of persistent *Enterococcus faecalis* bacteremia following TAVI. It remains unclear whether the recurrent infections were due to infective endocarditis secondary to TAVI, bacteremia associated with an undiagnosed early-stage CRC, or a combination of both. Given the association between *Enterococcus faecalis* bacteremia/endocarditis and colorectal malignancy, colonoscopy should be considered in patients with persistent *Enterococcus faecalis* bacteremia to exclude CRC as an underlying source[4].

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