

Rare Case of Aortic Valve Endocarditis Causing Inferior STEMI

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INTRODUCTION

- Infective Endocarditis (IE) is a rare complication after Transcatheter Aortic Valve Replacement (TAVR).¹
- IE is classified based on the Modified Duke Criteria, which can be seen in *Table 1*.
- One-year all cause mortality amounts to 27.3% (95% CI, 1.0%-53.6%), and it did not differ between patients with endocarditis with and without abscess formation.¹

CASE PRESENTATION

- Patient is a 78 year old male with a pertinent past medical history of coronary artery disease (CAD), TAVR, paroxysmal atrial fibrillation, hypertension, hyperlipidemia, peripheral artery disease, and obstructive sleep apnea who presented with concern for discitis on MRI.
- Of note, he had a recent hospitalization where he was found to have an aortic valve thrombus and was started on warfarin.
- Initial blood cultures were positive for **Abiotrophia/Granulicatella**, TEE was scheduled to examine his bioprosthetic aortic valve given his new bacteremia.
- Initial TEE showed EF 70% and a **1.6 x 0.8cm highly mobile vegetation on the aortic aspect of the valve, in the anterolateral position**. This can be seen in *Figure 1*.
- Cardiothoracic Surgery was consulted for possible surgical valve replacement after the resolution of his bacteremia.
- On day 10 of admission, a rapid response was called at 0500 and patient was complaining of crushing chest pain. EKG was obtained and can be seen in *Figure 2*.
- He was taken for urgent cardiac catheterization. He was found to have a lesion in the **posterior descending artery** that appeared embolic in nature as it was **“difficult to cross and had very little thrombus.”** Stent was placed with resulting antegrade TIMI grade 3 flow. *Figure 3*.
- Repeat TEE showed a slightly smaller mobile vegetation on the aortic valve.
- Upon discharge, he was recommended to complete an extended course of IV antibiotics prior to re-evaluation for surgery on his aortic valve.

Modified Duke Criteria	
Major Criteria	(1) Blood culture positive for infective endocarditis; (2) Evidence of endocardial involvement
Minor Criteria	(1) Predisposing factor; (2) Temperature > 30°C; (3) Vascular phenomena; (4) Immunologic phenomena; (5) Microbiologic evidence

Table 1.²

Figures and Imaging



Figure 1. Aortic Valve vegetation on transesophageal echocardiogram
Figure 2. EKG at time of inferior ST elevation myocardial infarction

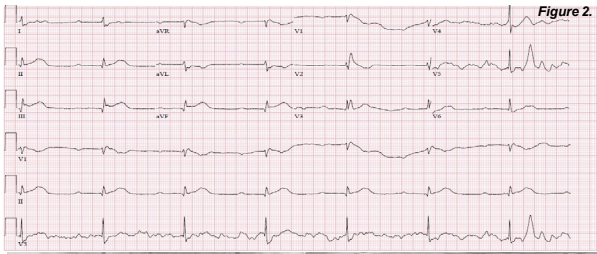


Figure 3a. Lesion noted in Posterior Descending Artery at time of initial cardiac catheterization.
Figure 3b. Resulting antegrade flow after angioplasty and stent placement

DISCUSSION

- The incidence of Transcatheter Aortic Valve Replacement associated Infective Endocarditis (TAVR-IE) is 0.1 to 4.4%.³
- TAVR-IE can be further classified into early (< 2 months), intermediate (> 2 months but < 1 year), and late (> 1 year).³
- The greatest incidence of TAVR-IE was within one year of the procedure; the incidence for early and intermediate TAVR-IE was 18% and 62%, respectively.³
- Complications of TAVR-IE include aortic root dissection, paravalvular abscesses, intra/paravalvular regurgitation, stroke, and high rates of heart failure.³
- The mortality rate associated with TAVR-IE has been reported as high as 46%.³
- Enterococcus and Staphylococcus Aureus are the two most common organisms causing TAVR-IE.⁴
- Abiotrophia/Granulicatella are classified as nutritionally variant streptococci, which have been associated with approximately 5% of cases of infective endocarditis in 2001.⁵

CONCLUSION

- Infective Endocarditis in the setting of a previous Transcatheter Aortic Valve Replacement is a rare, but fatal complication.
- As seen in our case, infective endocarditis can lead to a septic embolus causing a ST elevation myocardial infarction requiring immediately cardiac catheterization.
- Through our poster and our case, we aim to increase the awareness and early diagnosis of this condition.

REFERENCES

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