

Beaumont Health

## Beaumont Health Scholarly Works and Archives

---

Posters

Cardiology

---

5-2022

### A Case of Isolated Pulmonic Valve Candida Endocarditis

Michael Hoban

*Beaumont Health Fellow*

Scott Searing

*Beaumont Health*

Follow this and additional works at: [https://scholarlyworks.beaumont.org/cardiology\\_posters](https://scholarlyworks.beaumont.org/cardiology_posters)



Part of the [Cardiology Commons](#)

---

#### Recommended Citation

Hoban M, Searing S. A case of isolated pulmonic valve Candida endocarditis. Poster presented at Beaumont Hospital Farmington Hills 2022 Alvin Yarrows Research Day; 2022 May; Farmington Hills, MI.

This Poster is brought to you for free and open access by the Cardiology at Beaumont Health Scholarly Works and Archives. It has been accepted for inclusion in Posters by an authorized administrator of Beaumont Health Scholarly Works and Archives. For more information, please contact [janet.zimmerman@beaumont.org](mailto:janet.zimmerman@beaumont.org).

# A Case of Isolated Pulmonic Valve Candida Endocarditis

Michael Hoban, DO; Scott Searing, DO

Department of Cardiology ▪ Beaumont Hospital, Farmington Hills, MI

21



## Introduction

- Endocarditis is a rare and potentially lethal disease affecting 3 to 10 per 100,000 in the United States, with 40,000 to 50,000 new cases per year.<sup>3</sup>
- The major risk factors for development of endocarditis are prosthetic valves, hemodialysis, venous catheters, immunosuppression, and IV drug use.<sup>3</sup>
- Fungal endocarditis accounts for 1-10% of all endocarditis cases and has been associated with increased mortality.<sup>1</sup>
- Isolated pulmonic valve endocarditis is extremely rare accounting for < 2% of patients with infective endocarditis.<sup>2</sup>
- Transthoracic echocardiography is the initial imaging modality of choice and has sensitivity of 50-90%. TEE is 90-100% sensitive.<sup>1</sup>

## Case Report

- 71F with PMH ESRD on HD, HTN, GERD, and prior COVID-19 infection who presented to the ED for abnormal blood cultures showing persistent candidemia.
- Patient was hospitalized out of state 8 weeks prior for weakness and fatigue. CT during that admission with findings concerning for septic emboli. Blood cultures positive for Candida Tropicalis. TEE performed at that time showing no evidence of endocarditis. Right EJ tunneled PICC line was placed and the patient was discharged on a 6 week course of Micafungin.
- Vitals: 147/60, HR70, 98.4°F, 18RR, SPO2 100%
- PE: RRR, no murmurs, Lungs CTA, right sided PICC line, LUE AV fistula noted
- Labs: Hgb 10.4, eosinophilia 0.8, blood culture gram stain showing yeast
- CT chest: Scattered areas of irregular airspace disease, irregular nodules throughout both lungs, few enlarged mediastinal and axillary lymph nodes

## Patient Course

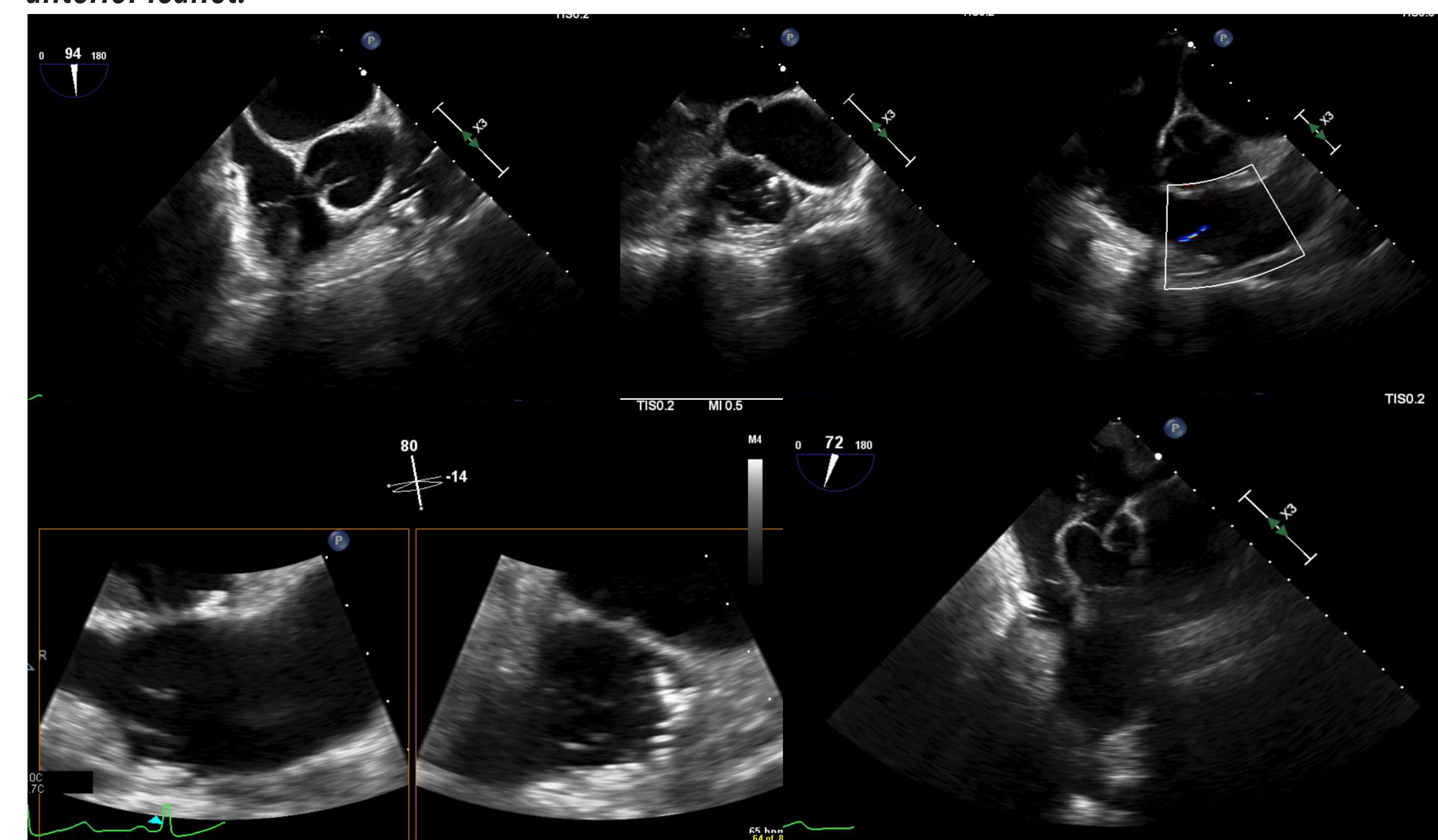
- The patient was evaluated by vascular surgery, infectious disease, nephrology and cardiology
- Outpatient culture sensitivities resulted and patient was started on micafungin per ID
- Evaluated by cardiology and transthoracic echo without evidence of vegetation. Given high clinical suspicion for infective endocarditis, planned to pursue repeat transesophageal echo

## Patient Course (cont.)

- Underwent removal of LUE AV fistula, right EJ tunneled catheter, and placement of right transfemoral dialysis catheter 2 days after admission with results of preoperative TEE as below
- Culture of AV fistula was remarkable for Candida Tropicalis, catheter tip from PICC line showing no evidence of infection. Culture sensitivities reviewed by ID and patient was started on oral Fluconazole. After repeat cultures showing no growth; patient underwent left trans-subclavian tunneled dialysis catheter placement. Patient received 6 weeks of oral therapy from date of last positive culture (AV fistula).
- Followed up with outside hospital for LUE AV fistula placement 10 weeks after discharge
- Follow up in cardiology office 5 months later and repeat transthoracic echo without evidence of further endocarditis
- Hospitalized 1 year after initial presentation for suspected fistula infection, reportedly had yellow exudate from LUE AVG. Blood cultures showing Staph Hominis. Currently undergoing treatment.

## Imaging

**Figure 1. TEE showing calcified, hyperechoic, mobile density on the arterial side of the pulmonic valve measuring 0.8 cm consistent with infective endocarditis. Normal EF of 65%, mild LVH, trace PI, moderate thickening of the anterior mitral valve leaflet with mild prolapse of the anterior leaflet.**



## Discussion

Endocarditis is becoming more prevalent over the past ten years. The diagnosis can often be difficult with at times negative blood cultures and imaging studies. When initial testing is negative and clinical suspicion remains high, further studies should be pursued. Complete evaluation of all valves and structures is necessary. This often requires off axis and non-standard views. 10-20% of patients have negative blood cultures at presentation, more commonly in fungal endocarditis cases.<sup>1</sup> The in-hospital mortality with infective endocarditis is 15-20%, 1-year mortality is near 40%.<sup>1</sup> Heart failure, paravalvular extension, and embolic events are the three most common and severe complications of infective endocarditis. These are also the primary factors that would determine an early surgical treatment as opposed to medical therapy.<sup>1</sup> This case highlighted 2 rare occurrences of endocarditis, isolated to the pulmonic valve (<2% of cases) and fungal endocarditis (1-10% of cases).

## Conclusion

Endocarditis is a serious condition, with high rates of mortality that can be difficult to diagnose. This is especially true when caused by atypical organisms and or when found in uncommon locations as was the case here. Prompt diagnosis and treatment is necessary to prevent morbidity and mortality.

## References

1. Otto CM, Nishimura RA, Bonow RO, et al. Citation: 2020 ACC/AHA Guideline for the Management of Patients With Valvular Heart Disease: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines. J Am Coll Cardiol 2020;Dec 17
2. Badiee, P., Amirghofran, A. A., Ghazi Nour, M., Shafa, M., & Nemati, M. H. (2014, December). *Incidence and outcome of documented fungal endocarditis*. International cardiovascular research journal. Retrieved January 12, 2022, from [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4302502/#:~:text=The%20incidence%20of%20FE%20has,blood%20stream%20infections%20\(11\).](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4302502/#:~:text=The%20incidence%20of%20FE%20has,blood%20stream%20infections%20(11).)
3. Cresti A, Chiavarelli M, Scalese M, et al. Epidemiological and mortality trends in infective endocarditis, a 17-year population-based prospective study. *Cardiovasc Diagn Ther.* 2017;7(1):27-35. doi:10.21037/cdt.2016.08.09