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A CASE REPORT OF *CANDIDA PARAPSILOSIS* INFECTIVE ENDOCARDITIS IN AN IMMUNOCOMPROMISED HOST

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BACKGROUND

- Infective endocarditis (IE) is the inflammation of the endocardial surface of the heart
- Fungal endocarditis (FE) is a relatively uncommon and is most commonly seen in individuals with prosthetic valves and immunocompromised state. It is extremely rare in patients with normal native cardiac valves
- Recognition is very challenging as it lacks the classic signs and symptoms of IE.

CASE PRESENTATION

A 79 year old female presented with fever. She had history of recurrent hospitalization due to bullous erythema multiforme, candida with streptococcal intertrigo, immune-mediated pancytopenia, and was treated with steroids, several antibacterial and antifungal medications. Peripherally inserted central catheter line (PICC) was also inserted for rituximab infusion. She was initially admitted for complicated urinary tract infection and multiple skin infections however on the 31st hospital day, patient had recurrence of fever associated with decreased sensorium and oliguria. Femoral catheter was eventually inserted for hemodialysis initiation. PICC line was removed and was sent for culture which revealed *Candida parapsilosis*. *Candida parapsilosis* was also detected in blood cultures taken from peripheral and femoral line. The patient was given intravenous amphotericin B and was referred to the Cardiology service for infective endocarditis work-up. Clinical findings on referral included oral thrush, erythematous bullae on both upper extremities, Janeway lesions on the palm and splinter hemorrhages (Figure 1). Other systems were unremarkable, including normal heart sounds. A transthoracic echocardiography was performed which revealed no oscillating mass. However, transesophageal echocardiography revealed vegetations involving the mitral, aortic and tricuspid valves (Figures 2-5) and biofilm enveloping the left atrial wall (Figure 5). Amphotericin B IV was continued, and a family meeting was arranged to discuss surgical options. However, due to age, various comorbidities of the patient, and an AEPEI score for 4.7, indicating a high post-procedural mortality rate of 38.2-45.1%, relatives chose to forego surgery and continue with medical management. The patient eventually died due to overwhelming sepsis.

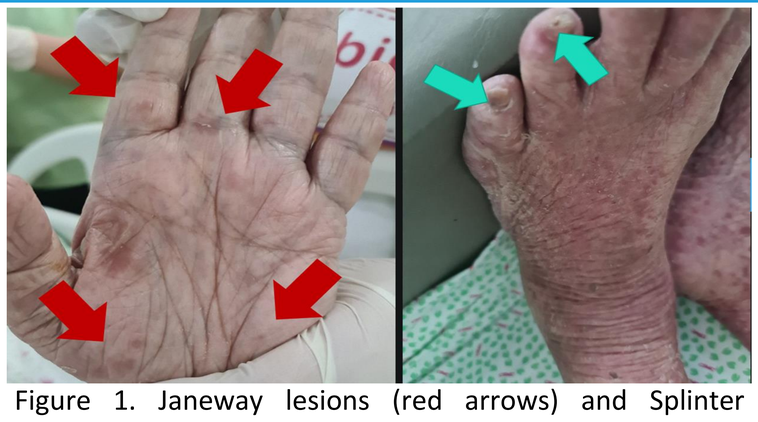

Figure 1. Janeway lesions (red arrows) and Splinter hemorrhages (green arrows) seen

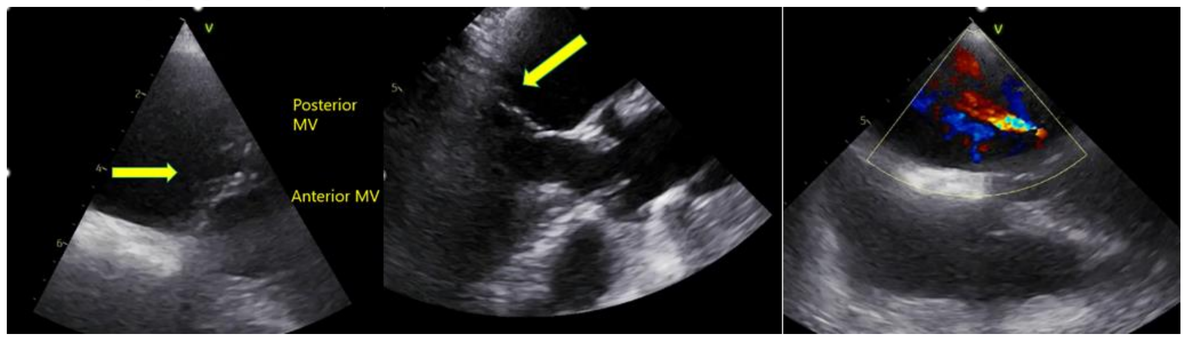

Figure 2. Transesophageal echocardiogram A. Mid esophageal 4-Chamber showing a 3.32mm vegetation on the posterior mitral valve leaflet B. Long axis view showing a 4.02mm vegetation on the posterior mitral valve leaflet. C. Color flow Doppler showing mitral valve regurgitation with central jet.

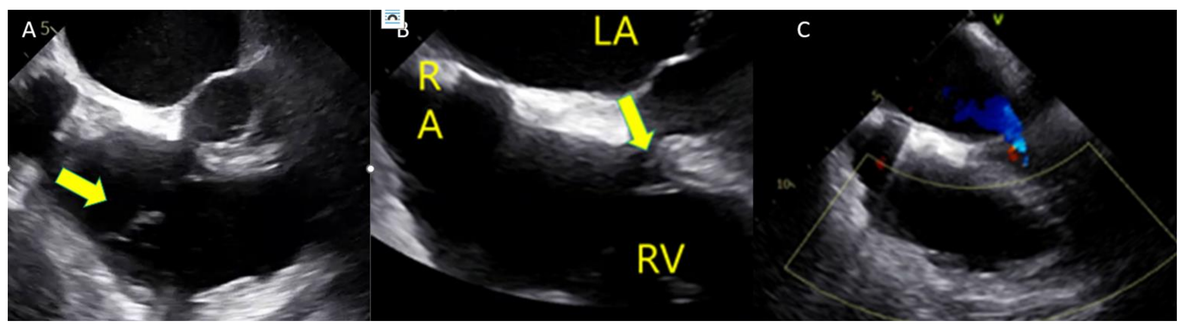

Figure 3. Transesophageal echocardiogram – Mid esophageal 4-Chamber: A. Showing a 2.36 mm vegetation on the anterior tricuspid valve leaflet B. and on the septal tricuspid valve leaflet. C. Color flow Doppler showing tricuspid regurgitation with central jet

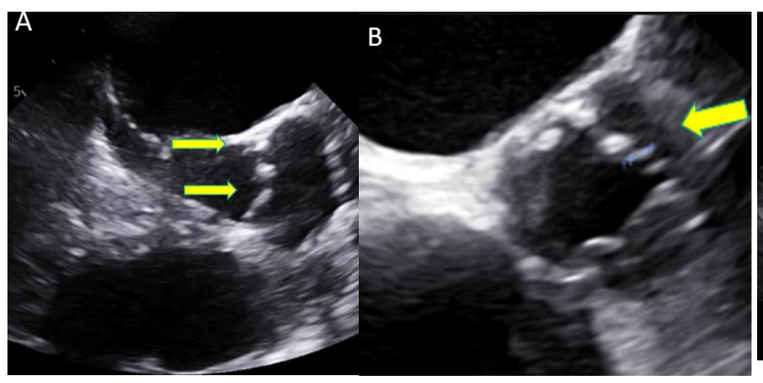

Figure 4. Transesophageal echocardiogram A. Long axis view showing vegetations on the non coronary cusp and right coronary cusp measuring 3.42mm and 3.42mm respectively. B. Short axis viewshowing vegetation on the left coronary cusp

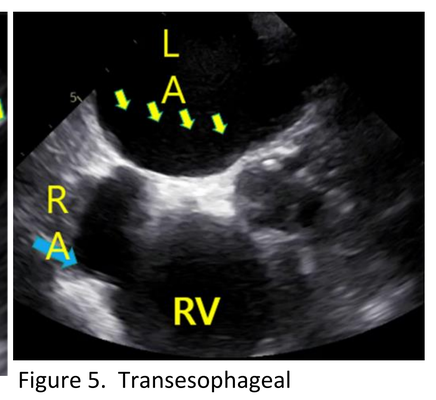

Figure 5. Transesophageal Echocardiogram – mid esophageal view showing inhomogeneous echo density (yellow arrows) enveloping left atrial wal suggestive of biofilm. Eustachian valve (blue arrow) is prominent.

DISCUSSION

- IE should be considered in patients with bacteremia caused by an organism known to have a propensity for causing endocarditis. Fever and significant cardiac risk factors are important indicators. Our patient is known to be immunocompromised, with multiple comorbidities and a history of prolonged hospitalization, steroid use, poly-antimicrobial treatment, and central line catheter use, all of which increase the risk of opportunistic infection.
- Clinical symptoms, microbiologic data, and cardiac imaging are used to establish the diagnosis. Echocardiography plays a key role in the diagnosis, management, and prognosis of IE. Transesophageal echocardiography is important both before and during surgery.
- Lesions in FE are typically large, left-sided, and occasionally nonvalvular. Bilateral lesions, like the one in our patient, are more common in immunocompromised individuals.
- A multimodal treatment approach is recommended for the successful management of FE. Medical treatment alone is insufficient and should be supplemented with surgery.

CONCLUSION

- Despite advances in diagnostic tools and antifungal therapy, FE continues to be associated with a significantly high mortality rate. Cases will continue to rise due to an aging population, an increase in immunocompromised patients, and a higher frequency of intravascular device implantation.
- A high index of suspicion should be maintained in these high-risk patients when they present with prolonged fever.
- Surgery is typically avoided in elderly patients with multiple comorbidities.
- Early diagnosis and prompt surgical intervention, combined with optimal antifungal therapy, remain the primary choice for reducing the extremely high mortality and morbidity associated with FE.

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