ScientificScholar®
Knowledge is power
Publisher of Scientific Journals

www.ijcdw.org

Indian Journal of Cardiovascular Disease in Women

Case Report *Cardiovascular*

A Rare Case of Postpartum Native Tricuspid Valve Infective Endocarditis with Septic Pulmonary Embolization

Jagadeesh Chandra Bose Yannam[1], Boochibabu Mannuva[1], Sireesha Konda[1]

[1]Department of Cardiology, Guntur Medical College, Guntur, Andhra Pradesh, India.

***Corresponding author:**
Boochibabu Mannuva,
Department of Cardiology,
Guntur Medical College,
Guntur, Andhra Pradesh, India.

e.mbb99@gmail.com

Received: 29 May 2023
Accepted: 17 July 2023
Epub Ahead of Print: 06 September 2023
Published: 16 December 2023

DOI
10.25259/IJCDW_41_2023

Quick Response Code:

ABSTRACT

Infective endocarditis (IE) is a rare life-threatening infection in pregnancy and postpartum period. In 90% of cases, right-sided IE involves the tricuspid valve. This case report illustrates acute IE with native tricuspid valve vegetation with septic pulmonary embolization in immediate postpartum period.

Keywords: Tricuspid valve infective endocarditis, Infective endocarditis, Septic embolization, Pulmonary embolism, Postpartum

INTRODUCTION

Acute infective endocarditis (IE) is a rare but life-threatening infection during pregnancy and in the postpartum period that requires a high index of suspicion for the early diagnosis and management. In the current era, risk factors are changing, with a marked decrease in prevalence of rheumatic heart disease with a concomitant increase in congenital heart disease and intravenous drug use. IE has been difficult to study in randomized controlled trials due to its low incidence and the absence of uniformity in presentation, risk factors, and microbial organisms involved. Our understanding of IE in pregnancy and postpartum period is further limited by extremely low incidence. Postpartum IE is uncommon but holds a high mortality rate 11.1%.[1] Here, we report a rare case of postpartum IE of tricuspid valve in a previously apparently healthy woman.

CASE REPORT

A 24-year-old female presented after 5 days of normal vaginal delivery with fever with chills and rigors, dyspnea, and cough with mild expectoration. There is no history of foul smelling vaginal discharge, burning micturition, and lower abdominal pain. There is no history of pain and swelling in the limbs. She has no significant medical illness in past. She has normal antenatal checkups and labor was uneventful. She has no history of IV drug abuse. She was admitted in gynecology department and empirically started her on intravenous ceftriaxone 1 g and levofloxacin 500 mg orally. In view of worsening her symptoms, cardiology consultation was taken.

On examination, she was febrile (temperature 102°F), tachypneic and few petechiae were noted over the right ankle. There was no clubbing, pedal edema, or lymphadenopathy. Systemic examinations showed crepitations in the bilateral upper and lower interscapular area. Heart sounds were normal and grade 3/6 pansystolic murmur in the left lower sternal border increasing with inspiration was heard. There was no hepatosplenomegaly and other system examination was normal. Complete blood counts showed hemoglobin – 9.0 g/dL and total leukocyte count 24,600 and predominantly neutrophilic and platelets 196,000. Serological tests for human immunodeficiency virus, hepatitis B, and hepatitis C were negative. Her electrocardiogram showed sinus tachycardia. Her transthoracic echocardiography [Figure 1] (TTE) showed vegetation (1.4 × 1.05 cm) over the anterior leaflet of tricuspid valve on the right atrial side with severe low-pressure tricuspid regurgitation (TR), trans-esophageal echocardiography (TEE) [Figure 2] confirmed TTE findings. Chest radiograph [Figure 3] showed bilateral parenchymal infiltrates. High-resolution computed tomography (HRCT) [Figure 4] chest showed that multiple peripheral ill-defined nodular opacities of varying sizes with few of them cavitatory in the bilateral lung fields were suggestive of septic pulmonary emboli.

She was provisionally diagnosed as acute IE of tricuspid valve with severe TR with septic pulmonary embolization and after sending three initial sets of blood cultures; she was started on empirical antibiotics in Inj. Amikacin 500 mg once daily and Inj. Vancomycin 500 mg twice daily. Her vitals and renal function tests were monitored regularly. Blood cultures were sterile at 48 h and 7 days. Gradually, her symptoms improved and she became afebrile by 10th day. Amikacin was continued for 2 weeks and vancomycin for 4 weeks. After completion of antibiotic treatment for 4 weeks, repeat TEE was done and found that vegetation was decreased in size to 12 × 7 mm and TR is moderate to severe. As the patient is asymptomatic and hemodynamically stable, she was discharged and kept on close follow-up with future plan of tricuspid valve repair.

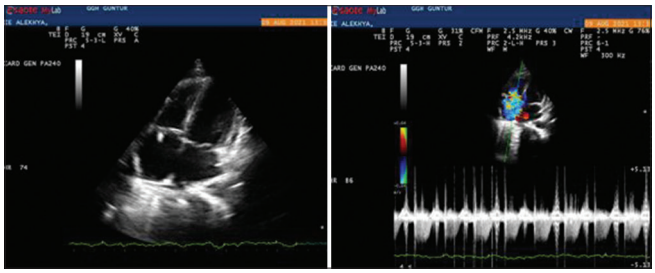

Figure 1: Transthoracic echocardiography images showing apical 4 chamber view showing vegetation on anterior leaflet of tricuspid valve and severe low-pressure tricuspid regurgitation.

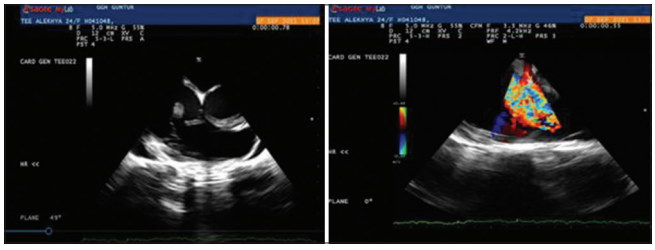

Figure 2: Transesophageal echocardiography images showing vegetation on anterior leaflet of tricuspid valve and severe tricuspid regurgitation.

DISCUSSION

Right-sided IE is very rare (10%) predominantly seen in IV drug abuse.[2] Transient bacteremia, a condition required for the development of bacterial endocarditis, may arise

Figure 3: Chest radiograph showing bilateral parenchymal infiltrates.

Figure 4: Computed tomography chest showing cavitating septic pulmonary emboli.

after infected delivery conditions. Group B streptococci can be isolated from genital or lower gastrointestinal tract cultures of pregnant and non-pregnant women ranging from 5% to 40%.[3] This colonization in pregnant women serves as the origin of puerperal and neonatal sepsis, maternal endometritis, chorioamnionitis, and bacteremia.

In a retrospective study of 82 women with IE developed after childbirth and abortion, 71% occur in the postpartum period and 29% in the post-abortion period.[3] The most common form of IE in that study was primary IE – 88% and only 12% – secondary IE. Among the causative agents of IE, staphylococcus was the leading in women after childbirth and abortion - 63%.[4]

Pulmonary rather than cardiac manifestations are usually the predominant clinical features of tricuspid valve endocarditis (TVE).[5] Symptoms arising from pneumonia or septic pulmonary emboli from dislodged vegetative material are common findings in TVE as seen in our case. Cardiac manifestations are less prominent than in the left-sided endocarditis.

CONCLUSION

We report a case of culture negative native tricuspid valve endocarditis occurring after a normal vaginal delivery. Despite the fact that this is a rare condition, it emphasizes the importance of blood cultures and echocardiography in postpartum patients with persistent fever.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Gopaul K, Padilla-Lopez C, Azeem A, Cherazard R. Post Partum Infective Endocarditis Caused by *E. faecium* without Predisposing Disease. Available from: from: https://shmabstracts.org/abstract/post-partum-infective-endocarditis-caused-by-e-faecium-without-predisposing-disease [Last accessed on 2021 Nov 17].
2. Kebed KY, Bishu K, Al Adham RI, Baddour LM, Connolly HM, Sohail MR, *et al.* Pregnancy and postpartum infective endocarditis: Systematic review. Mayo Clin Proc 2014;89:1143-52.
3. Linkova OV, Khubulava TG, Novikov BN. Infective endocarditis as a result of obstetric and gynecological sepsis. J Obstetr Womens Dis 2005;54:118-21.
4. Shimoni Z, David MB, Niven MJ. Postpartum Group B streptococcal tricuspid valve endocarditis. Isr Med Assoc J 2007;8:883-4.
5. Swiston J, Shafran SD, Kassam N. Isolated native tricuspid valve endocarditis caused by viridans *Streptococcus*. Can J Infect Dis 2001;12:305-7.

How to cite this article: Bose Yannam JC, Mannuva B, Konda S. A rare case of postpartum native tricuspid valve infective endocarditis with septic pulmonary embolization. Indian J Cardiovasc Dis Women. 2023;8:268-70.