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Case Report

A rare case report of neonatal infective endocarditis with concomitant involvement of the mitral and tricuspid valves



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ABSTRACT

Infective endocarditis (IE) in neonates is a rare condition associated with a significant amount of morbidity and mortality; the incidence of this condition appears to be on the rise; this is being attributed to an increase in invasive techniques in management of neonates with complex medical issues.

The underlying mechanism behind neonatal IE is believed to be a combination of bacteremia and endothelial damage.

The valve commonly affected in neonatal IE is the tricuspid valve; the mitral valve is generally spared; the involvement of both valves is uncommon and has been sparsely reported to occur amongst adults in the past.

We present a rare case of neonatal IE where both mitral and tricuspid valves were affected, the possible mechanism being paradoxical septic emboli passing into the left side of the heart via a patent foramen ovale.

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1. Case history

A 5-day-old female baby was brought to the pediatric outpatient department with a history of high-grade fever

associated with rigors and excessive sweating. The mother of the child also gave a history of the child refusing feeds.

On further enquiry, it was discovered that the child's mother did not receive proper antenatal care. The mother, however, was healthy and asymptomatic at the time of admission.

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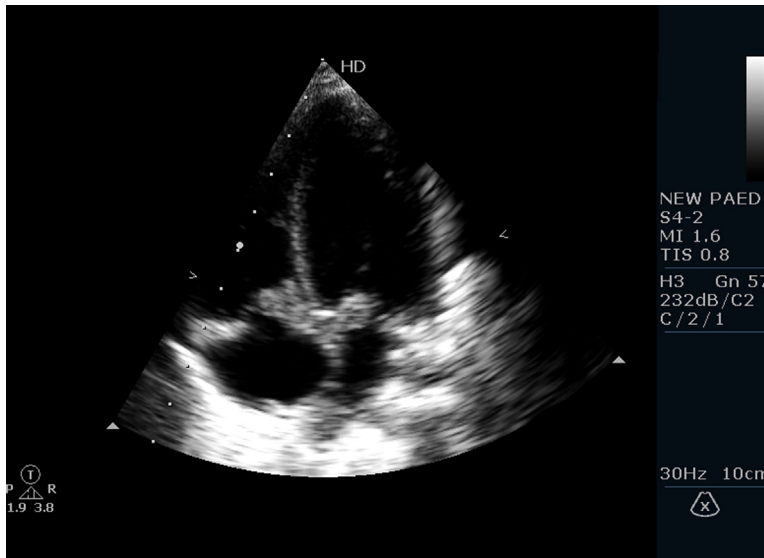


Fig. 1 – 2D ECHO image showing bulky vegetations on both the tricuspid and mitral valves.

On physical examination, the child was found to be febrile, tachypnoeic with in-drawing of the lower intercostals spaces on breathing and mild hepatosplenomegaly.

Investigations done upon initial evaluation revealed high ESR and high counts, with neutrophilia and toxic granules.

Based on a high index of suspicion of infective endocarditis (IE), the child was referred to the cardiology department for opinion and evaluation by echocardiography (ECHO).

2D ECHO done showed large bulky vegetations affecting the anterior mitral valve leaflet of the mitral valve (MV) and the anterior septal leaflet of the tricuspid valve (TV). The appearance of the vegetation was suggestive of either a staphylococcal or fungal etiology [Fig. 1]. ECHO also revealed severe mitral regurgitation (MR) and severe tricuspid regurgitation (TR) [Figs. 2 and 3]. Biventricular function was fair with no evidence of pulmonary hypertension.

The treatment was immediately started with intravenous cefazolin and gentamicin; blood culture reports obtained the next day revealed colonies of methicillin sensitive *Staphylococcus aureus*. Over the new few days, the temperature was stabilized. Blood counts performed subsequently revealed normalization of counts and the child started feeding at regular intervals.

The neonate was discharged after completing a full course of antibiotics. ECHO done prior to discharge revealed normal valves with resolution of the mitral and tricuspid insufficiency.

Follow-up visits at 6 weeks and 3 months were uneventful.

2. Discussion

IE in neonates is a rare condition, which is associated with a substantial amount of mortality and morbidity. Its incidence

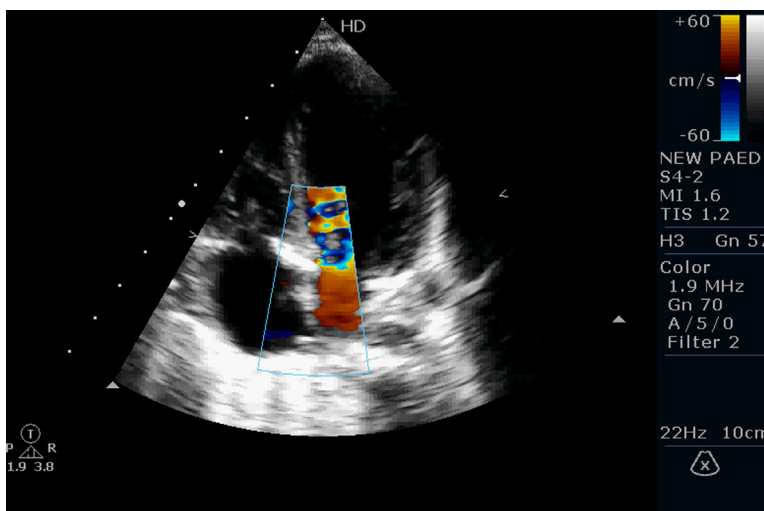


Fig. 2 – 2D ECHO image in the same patient showing severe MR.

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