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CANDIDA PARAPSILOSIS ENDOCARDITIS ON NATIVE MITRAL VALVE: A RARE PRESENTATION

Cardiology

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ABSTRACT

Fungal etiology is an uncommon (2% of all cases of endocarditis) and less frequent cause of endocarditis when vegetation grows on a native valve. Alcoholism, previous valvular heart disease or prosthetic valve replacement, immunodeficiency states, prolonged intra-venous hyper-alimentation, permanent pacemakers, and some congenital heart diseases can provide the predisposing factors .In this article we present a case of 60-year-old woman with mitral native valve endocarditis related to **Candida parapsilosis** which is a very rare cause of infective endocarditis and carries a high mortality risk. She presented to us with a history of intermeittent fever and fatigue since 20 days. Examination revealed digital clubbing and a mid-diastolic murmur in Mitral area.2 D-echo showed vegetations on the posterior mitral leaflet. All the three blood cultures grew Candida parapsilosis. Though surgery was indicated, prolonged treatment with intra-venous Amphotericin and Fluconazole showed regression of the vegetations as followed on 2D echocardiography. This is a rare case of candida endocarditis in a patient without any risk factors. Recommended treatment for fungal Endocarditis is combination of antifungal drugs and surgery but patient may respond to medical management alone.

KEYWORDS

Introduction:

Candida endocarditis is a rare entity in clinical practice, and involvement of a native valve is even more uncommon. Risk factors for development of the disease include IV drug use and indwelling central venous catheters. In non albicans Candida, C. glabrata is responsible for 26 % of all cases of candidaemia, followed by C. parapsilosis (16%), C. tropicalis (8%), and C. krusei (3%). *C. parapsilosis* and *C. albicans* endocarditis have a similar mortality rate and frequency of dissemination. Overall, mortality ranges from 41.7% to 65%. We present a case of a 60-year-old woman with native mitral valve endocarditis due to Candida parapsilosis.

Case presentation:

A 67-year-old woman presented with 20 days of unexplained fever and easy fatigability. She had previously received packed red cells in view of low hematocrit. She had no risk factors for endocarditis apart from the transfusion. Her previous medical history was not significant for cardiac disease. A general physical examination revealed that the patient was febrile, and grade II clubbing was noted. A thorough cardiac examination revealed precordial pulsations, a tapping apex beat and a mid-diastolic murmur in the mitral area. A review of the remaining systems was non-productive. There were no other peripheral signs of infective endocarditis. The only lab results showed a low hematocrit, raised ESR, neutrophilic leukocytosis. Other lab parameters were within normal limits.

Transthoracic echocardiography revealed a mobile vegetation, measuring 14*5 mm (Figure 1), on the posterior mitral leaflet of the mitral valve with moderate stenosis. She was started on empiric treatment with ceftriaxone (2gms i.v. BID) while the blood cultures were awaited. *Candida parapopsilosis* was cultured from the 3 blood samples. Hence, the patient fulfilled Duke's criteria for infective endocarditis. Following the culture, the patient was started on Amphotericine B (0.6 mg/kg/day) intravenous and fluconazole (6mg/kg/day) per oral in accordance with the sensitivity report. After 28 days of antifungal therapy, a follow up echo was performed, which revealed persistent mobile vegetation on the mitral valve. She was advised to undergo surgery upon consultation with the cardiothoracic department, but deferred due to personal constraints.

Hence medical treatment was continued with fluconazole. Improvement was noticed in her clinical condition after 2 months of therapy, and a transthoracic echo at that point revealed a decrease in vegetation size (Figure 2), confirming the effectiveness of the treatment.

Discussion:

Fungal endocarditis is accounts for only 1.3–6% of all cases of infectious endocarditis (rare entity) and it carries a high mortality risk [1]. Although *C. albicans* is the most common cause of fungal endocarditis, *C. parapsilosis* is the commonest non-*albicans* etiology for fungal endocarditis[2]. It is an extremely rare occurrence in patients with normal native cardiac valves. Galgiani and Girmenia reported one of the earliest occurrences and they found the cause to be a tear in the surgical worn by carrier surgeons[3]. But in our case there is no evident predisposing factor.

Candida species produce biofilm which is an important pathogenic mechanism. The biofilms produced by *C. parapsilosis* strains associated with invasive disease are morphologically different from those produced by *C. albicans* [4]. Therefore, *C. parapsilosis* induced endocarditis is difficult to treat completely. It is a slow-growing infection which has been reported to recur as late as 43 months after a positive blood culture[5] . Many cases were reported where there were recurrences and deaths even after completion of full course of antibiotics. Even the ideal treatment strategy for *Candida* endocarditis has not been formally tested in prospective randomized controlled studies. When we reviewed cases in the literature it has been documented that combined surgical and medical therapy is associated with a lower mortality rate[6].

The guidelines from The American College Of Cardiology(ACC) and the American Heart Association(AHA) mention surgery as a class 1 recommendation for treatment. Moreover, the recent Infectious Diseases Society of America (IDSA) guidelines on *Candida* endocarditis recommend that it should be treated by valve replacement, either for native or prosthetic valves[7]. In our patient, though valve replacement was recommended, it was deferred due to financial constraints. So, she was treated with fluconazole with which she showed clinical as well as echocardiographic improvement.

Conclusion:

Suspicion of candidemia is considered in presence of risk factor such as prosthetic heart valves or other valvular disease, intravenous drug use, indwelling central venous catheters. The above mentioned case is an unusual presentation of candida endocarditis on native valves . Recommended treatment for fungal Endocarditis is combination of antifungal drugs and surgery but patient may respond to medical management alone.

Figure 1: 2-D ECHO ON PRESENTATION

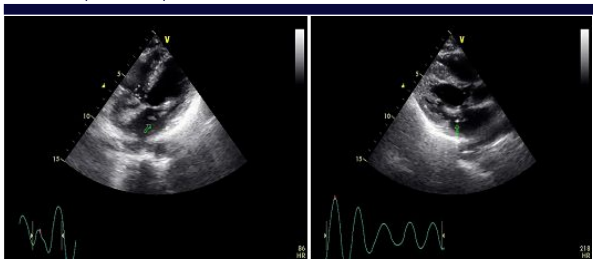
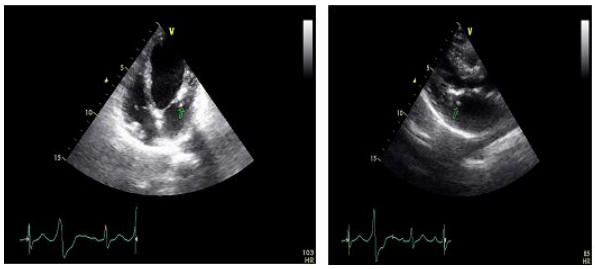


Figure 2: 2-D ECHO ON FOLLOW UP



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