

Survival from a Giant Mitral Valve Vegetation, Culture Negative Infective Endocarditis with Long Term Embolic Complications-Unusual Prolong Illness

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Abstract Infective endocarditis remains an important clinical condition which if not picked and treated at time leads to devastating course. We present a case of middle aged female with prolong illness of around 2 months , developed devastating septic complications of infective endocarditis and underwent surgical resection of unusually giant vegetation with mitral valve replacement along with antibiotic treatment showed recovery soon after surgery, although her Blood cultures and tissue cultures remained negative. This case is of major interest that she was early recognized for all possible complications of the disease and treated accordingly with difficult surgery despite of prolong illness and complications.

Keywords: IE, vegetation, culture negative

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1. Introduction

Infective endocarditis remains an important clinical condition which if not picked and treated at time leads to devastating course [1]. Valvular vegetation, abscess, peri-annular and extension of infection are all possible manifestations of infective endocarditis [2]. Risk factors of infective endocarditis have changed over time which have impacted clinical spectrum of IE, these include prosthetic valves, intracardiac devices, increase in elderly population, and changes in antibiotics have changed clinical pattern of infection and resistance to microorganisms worldwide [3]. Blood culture negative IE is difficult to diagnose with wide incidence rate of around 35 to 70% [4] with a mortality of around 40% [5]. Clinical manifestation of IE ranges from local structural complications like prolapse and perforation of leaflets to clinical syndrome include congestive heart failure, acute embolic complications (Ischemic stroke and multi organ infarcts) and sepsis and its related end-organ complications.

2. Case Presentation

45 year-old-female with no prior history of cardiac disease presented to emergency department with complains

of fever (High grade, intermittent, undocumented), shortness of breath associated with orthopnea and paroxysmal nocturnal dyspnea for last 2 months and drowsiness for last 10 days. Past medical or surgical history was not significant. Social history was unremarkable for any addictions. Prior coming to our set up patient had been to multiple physicians and was taken antipyretics and some (unknown) herbal medications.

On presentation, the patient was afebrile and had a pulse rate of 112 betas/min, respiratory rate of 26 breaths/min and a blood pressure of 130/89 mm Hg. Physical examination showed erythematous lesions on palms and soles (Janeway lesions), Pan systolic murmur of grade IV at left sternal border and bilateral crackles on chest auscultation, Neurological examination was significant for low Glasgow coma scale (GCS) of 12/15 with normal reflexes and flexor planters, other specific neurological examination was not performed due to low GCS. Abdominal examination revealed splenomegaly. After initial examination she was admitted with diagnosis of suspected IE and embolic stroke, empiric antibiotic Ceftriaxone 2g/ Day with Vancomycin 1g X 2/ Day was initiated after sending 2 sets of cultures. Magnetic resonant imaging of brain showed multiple ill-defined heterogeneous areas in left cerebral hemisphere consistent with infective foci (Figure 1).

Transthoracic echocardiograph was done which showed Left atrium severely dilated with estimated ejection fraction

of approximately 60%. Mitral valve thickened, calcified, with no stenosis. Prolapsing anterior leaflet causing severe (very eccentric) mitral regurgitation is noted with ERO 0.55 cm square. Mobile echogenic densities noted on both anterior and posterior mitral leaflets along with walls of left atrium which is consistent with vegetation (Figure 2). Laboratory studies were concerning for leukocytosis of

11.9 K/uL, hemoglobin of 7.6 gm./dL, and platelet count of 126 K/uL. CRP of 15.1mg/dL (0-0.5mg/dL). Other laboratory abnormalities included serum creatinine of 0.2mg/dL (0.6-1.1 mg/dL), and albumin of 2.2 g/dL. Troponin was 0.112 ng/MI (0-0.04ng/mL), chest x-ray showed cardiomegaly and urine detailed report was positive for >20 red blood cells/HPF (0-4 red blood cells /HPF).

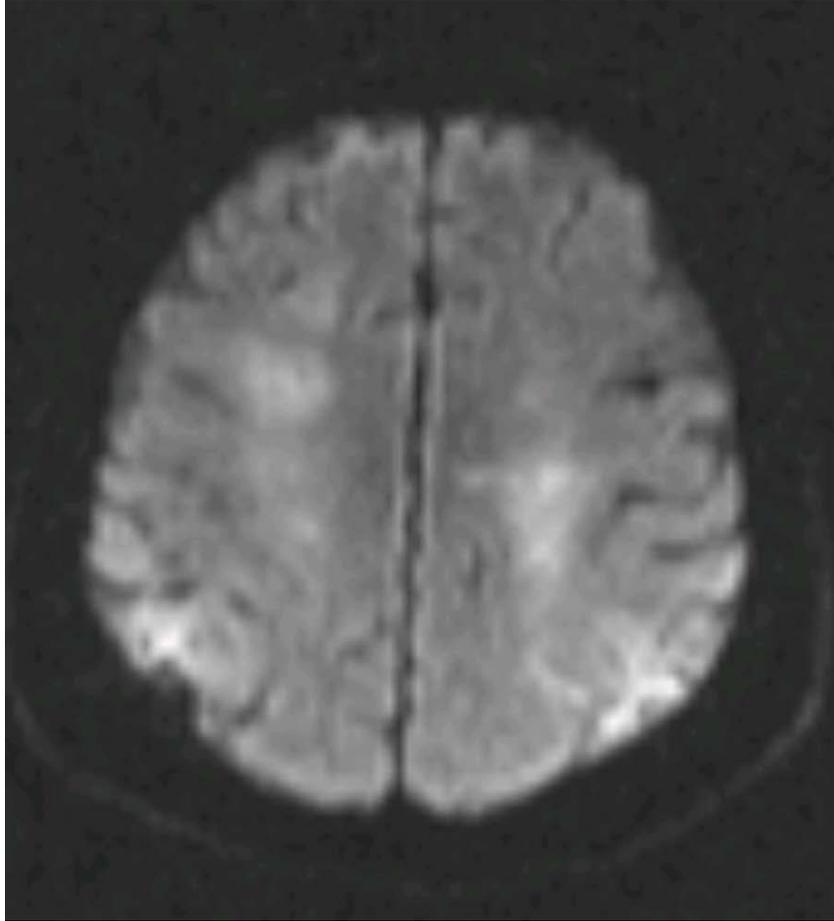


Figure 1. Magnetic Resonant Of Brain

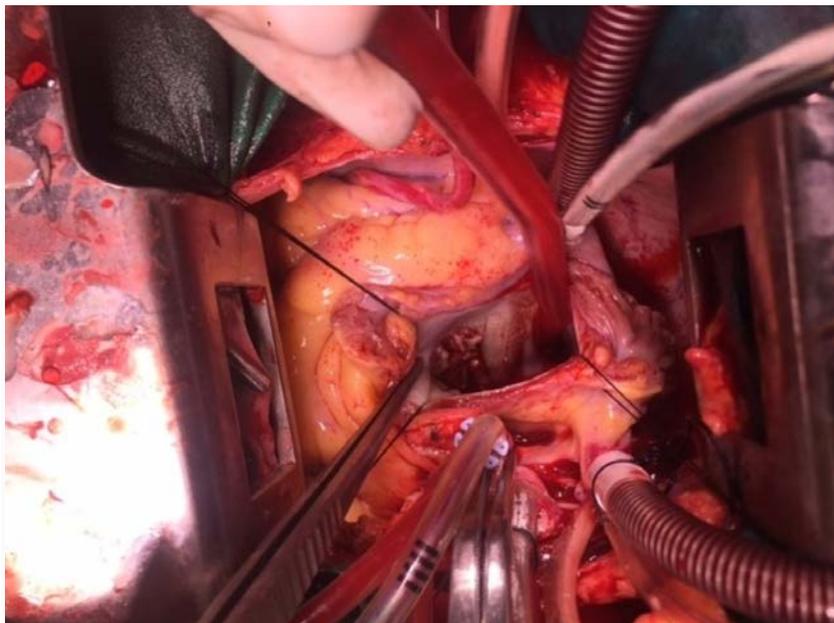


Figure 2. vegetation of Mitral Valve

Blood cultures were repeated 24 hours after initiation of antibiotic, serial blood cultures were negative treatment was rearranged to Meropenem 1g X 3/Day with Vancomycin 1g X 2/ Day along with Amphotericin 50 mg/ Day. On 8th day of hospitalization patient developed acute pain in right leg, on examination pulses were feeble on right side, by keeping examination findings color Doppler was done, showed Echogenic thrombus in right popliteal artery with no color filling on color. Vascular surgery opinion was taken and patient was started on Enoxaparin s/c 80mg X 2/Day. Since the patient had recurrent septic emboli despite antibiotic treatment of 1 week duration without significant improvement in patient's condition, surgical intervention was planned. Per-operative findings showed destroyed mitral valve, with extensive vegetation involving anterior, posterior mitral leaflets along with wall of left atrium, vegetation was removed and prosthetic valve was replaced (Figure 2). During post-operative period, patient remained vitally stable, afebrile with GCS of 15/15.

3. Outcome

The treatment was completed in 6 weeks, and she was discharged with full recovery. Review echo showed no vegetation with normal functioning prosthetic valve. Tissue culture was also negative for any growth.

4. Case Discussion

Our case report discusses an unusual presentation of IE with such prolong duration of fever and shortness of breath, with embolic complications like stroke, acute limb ischemia and heart failure due to severely destroyed mitral valve. In our case source of bacteremia could not be found, serial blood cultures were negative and tissue cultures also did not show any growth, this case was not only unusual in presentation with complications but per operative findings also amazed surgeon such large vegetation has never been reported in previous case reports. Early identification of IE is critically important as it can lead to devastating course if not picked and treated on time, as in this case patient had a long history of fever and dyspnea for 2 months, with other complications, but severity of disease was promptly identified and cardiothoracic team was consulted on time due to recurrent septic embolic complications and with prompt surgical resection and appropriate antibiotic coverage we were able to safe this patient. Culture negative IE is difficult to diagnose due to its infective and non-infective etiologies, Prior antibiotic administration is the main cause of culture negative IE [6], other causes include infection by fastidious organisms like HACEK [7]. In our case use of antibiotic was uncertain. Embolic complications is one of the most important cause of increase mortality and occur in 13% to 49% in patients with IE [8,9]. Trans-esophageal echocardiograph is preferred over transthoracic echocardiography by AHA

and ESC but in our case consent was given by family for TEE [10] Although prompt antibiotic administration reduces complications but neurological complication are still found in 20 to 40 % of patients with IE [11].

The patient underwent successful mitral valve replacement surgery and remained stable post op. Along with surgical intervention and supportive treatment with antibiotic and antithrombotic therapy patient showed marked improvement in symptoms and disease process. This highlights that early surgical intervention has better outcomes and improves embolic complications in patients with large vegetation.

5. Learning Points

Infective endocarditis can present as prolong course of illness.

Patients with large vegetation and embolic complication benefits from combined therapy with surgical and antibiotic regimen.

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