

FUNGAL ENDOCARDITIS

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Fungal Endocarditis is on an increase as the isolation facilities are becoming available. This case history of a young man who suffered from fungal endocarditis shows the involvement of heart with fungus aspergillus after cardiovascular surgery and later heart failure as a result of massive fungal endocarditis.

INTRODUCTION

Fungal endocarditis, once considered as an uncommon disease has been reported with increasing frequency over the past decade. This infection is usually associated with narcotic addiction, prolong intravenous hydration, cardiovascular surgery or treatment with broad spectrum antibiotics.

Candida paraposilosis is the fungal species most commonly isolated from narcotic addicts.

Aspergillus species are most commonly found in patients after cardiovascular surgery. Candida Albicans most often seen in patients who have received prolonged courses of intravenous fluids and antibiotics.

CASE HISTORY

An unmarried young man 23 years old admitted to the medical ward with complains of shortness of breath of increasing severity over past few months. He reported to have fever of long duration with joint pains in his early teens but was not labeled as a heart patient or rheumatic heart patient. Dyspnoea, palpitation, and chest pain used to occur off and on since last 8-10 years. He has past history of appendicectomy.

This time his physical examination revealed a man of thin built with above average height. Pallor was evident, BP was showing high pulse pressure. Peripheral pulses were palpable, equal, and high volume. It was collapsing in character.

Cardiovascular examination revealed S1 normal to low, S2 single and soft. A diastolic decrescendo murmur was audible at left sternal border. On chest auscultation there were fine crepitations. His blood tests revealed:

- _ Normal ASO titre
- _ Leucocytosis of mild intensity i.e. 13100/cumm.
- _ ESR 9 mm/ 1st hour.
- _ Electrolytes shows hypokalemia.
- _ Normal liver and kidney function tests.
- _ Urine analysis normal.
- _ X-rays showed mild cardiomegaly.
- _ Echo diagnosis were:
 - Thickened aortic valve.
 - Thickened mitral valve.
 - Severe aortic regurgitation.
 - Enlarged L.V. with LVVO with mild dysfunction.

He was seen by the surgeon and was planned for Aortic valve repair surgery i.e. A.V. extension.

His electrolytes were corrected and he was taken to operation theatre for Aortic cusp extension as an open heart procedure. There was an uneventful recovery and patient was sent home with advice to have regular monthly penicillin injections.

He remained alright for one month. Then he developed low grade fever that increased in severity, it was associated with nausea, but no cough. After three days he felt pain, weakness, numbness in right lower limb. No pulses were palpable in the limb. Right femoral embolism was diagnosed, and embolectomy was done on the same day. Patient was still running temperature, and was complaining of pain in right big toe. Next morning patient complained of pain in left upper thigh since last midnight. On examination left lower limb pulses were absent. Again embolectomy was performed. Since the time of admission he was on broad spectrum antibiotics covering both gram negative and gram positive organisms.

Repeated echo showed aortic regurgitation of moderate to severe intensity and a small vegetation was attached to aortic leaflet. His fever was seemingly unresponsive. Though he was now for two weeks on the antibiotics. His antibiotics were stopped for 72 hours on the advice of the surgeon. Blood cultures were sent, initial reports were negative, later one report showed coliform organisms to be present.

Then he was decided to be re-operated, for aortic valve replacement, using a Star Edward prosthetic valve.

Operative findings were:

- Pericardial adhesions.
- 2. Gross A. R. (Prev. A. V. Extension).
- 3. Large amount of vegetation extending into L.V? Fungal.

Aortic valve along with vegetation removed, and sent for histopathology. Routine report showed no growth. But when asked for fungal culture it was rewarding. Report later confirmed fungus aspergillosis.

In post op period patient was kept on full dose of Amphotericin B injection (a potent anti fungal agent) after a lapse of one and a half month period, fever subsided. Repeat echocardiogram showed increase gradients across aortic valve. Left ventricle was enlarged with moderately severe dysfunction. After a week the patient was discharged from the hospital on regular antifungal treatment. Diuretics and inotropic agents were added to the treatment. He was put on life long anticoagulant therapy, because of prosthetic metallic valve.

Next few months he did not turn up for follow up, and nothing could be known about him.

After four months he was brought in emergency room in precarious condition. He was complaining of shortness of breath and fever off & on since, 5-6 months. Because of costly medication he could not continue antifungal treatment on regular basis. At this time he was severely dyspnoeic, and BP was not recordable. He was put on intravenous inotropic support and antifungal therapy administered. Despite all efforts his blood pressure did not improve, his breath never smoothed. He remained restless and finally succumbed to his ailment.

DISCUSSION

Fungal endocarditis is still a dreadful condition as it is difficult to diagnose without a high grade of suspicion. Another difficulty is that cultures for fungal species are not done in all centers of the country. However, repeated negative reports of blood cultures and no response to broad-spectrum antibiotics should be sufficient to sow the seed of suspicion for fungal involvement. Cultures may still be negative as lesion is on left

side and hyphal particles were too large to enter the venous circulation, from where venous blood is withdrawn.(1)

Another reason for developing fungus may be the use of Penicillin and other antibiotics, disturbing the normal flora causing the fungus to set in.

Other sources of fungal infection may be multiple venepunctures, intravenous infusions or some unidentified focus in the respiratory or gastrointestinal tract. (7,8) Surgical treatment is recommended on the basis of previous studies (3,4) which recommend that when fever persists for three weeks and vegetation is one cm. in diameter, even in the absence of cardiac failure. These patients even after surgery, still need chemotherapy, since the disease is disseminated already.

Combination chemotherapy is recommended as many aspergillus species are resistant to Amphotericin B and 75% are resistant to flucytosin. (5,6).

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