



Case Report

FUNGAL ENDOCARDITIS

Roohi Ilyas

ABSTRACT

There is increasing awareness about Fungal endocarditis as the laboratory techniques have improved to isolate the various fungi. This infection is usually associated with narcotic addicts, prolonged intravenous hydration, cardiovascular surgery and with broad spectrum antibiotics.

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

Keywords: Fungus Aspergillum, Endocarditis, Narcotic addicts, cardiovascular surgery.

(J Cardiovasc Dis 2003;1(1-2):42-43)

INTRODUCTION

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

Candida parosiposis 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 course of intravenous fluids and antibiotics.

CASE HISTORY

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

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. They were collapsing in character.

Cardiovascular examination revealed S1 normal to low, S2 single and soft. A diastolic de crescendo murmur was audible at the left sternal border. On chest auscultation, fine crepitations were audible.

Blood tests revealed:

-Normal ASO titre, Leucocytosis of mild intensity i.e. 13100/cumm, ESR 9mm/1st hour.

-Hypokalemia was present, Liver and Renal function tests were normal.

-Urine analysis was normal.

-X-Rays showed cardiomegaly (increased cardiothoracic ratio).

-Echo showed:

-Thickened aortic valve, -Thickened mitral valve,

-Severe Aortic regurgitation, -Enlarged LV with left ventricular volume overload with mild dysfunction.

TREATMENT

He was planned for Aortic valve repair surgery i.e. Aortic valve extension.

His electrolytes were corrected and he was taken to the operation theatre for aortic cusp extension as an open heart procedure. There was an uneventful recovery and patient was sent home with the advice to have regular monthly Penicillin injections. He remained alright for one month. Then he developed low grade fever that gradually 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 the left thigh since last midnight. On examination left lower limb pulses were absent. Again embolectomy

Address for correspondence

Dr. Roohi Ilyas
83/1, 2nd Commercial Street
Phase IV, D.H.A Karachi, Pakistan.
Tel No: +92-21-5888609
Fax +92-21-2470383--Cell: +92-300-2156520
E mail: theahmedz@hotmail.com



was performed. Since the time of admission he was on broad spectrum antibiotics covering both gram negative and positive organisms.

Repeated echo showed aortic regurgitation of moderate to severe intensity and small vegetation was attached to aortic leaflet. His fever was seemingly unresponsive, although he was now on antibiotics for two weeks. His antibiotics were put on hold for 72 hours to do the blood culture. The report showed Coliform organisms to be present.

Then he was decided for Aortic valve replacement operation.

Operation findings were;

- Pericardial adhesions.
- Gross aortic regurgitation.
- Large size of vegetation extending into LV.

Aortic valve along with the fungal vegetation was removed and sent for histopathology.

Routine report showed no growth. But when asked for fungal cultures, it was rewarding. The report confirmed Fungus Aspergillois.

In the post operation period, the patient was put on full dose of Amphotericin B injections. (A potent antifungal agent).

After one and a half month period, the fever had completely subsided. Repeat echoes showed increased gradients across aortic valve. The 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 anticoagulation therapy because of the prosthetic mitral valve. For the next few months he did not show up for follow-up, and nothing was known about him

After about a month he was brought in the emergency room in precarious condition.

He was complaining of shortness of breath and fever

off and on for the last 5-6 months. Because of the high cost of the treatment he had stopped the antifungal medicines which he was advised to take regularly.

At this time he was severely breathless and his BP was barely recordable.

He was put on intravenous inotropic support and antifungal therapy was re-started. Despite all efforts his blood pressure did not improve and 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 handicap is that antifungal cultures 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 enough to sow the seed of suspicion for fungal involvement. Cultures may still be negative if the lesion is on the left side and hyphal particles are too large to enter the venous circulation, from where venous blood is withdrawn.¹

Another reason for developing a 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 venipunctures, intravenous infusion 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}

REFERENCES

1. Robert BK. Aspergillus species endocarditis. *Am J Med* 1974; 56:515.
2. Zimmerman LE. Candida and aspergillus endocarditis with comments on the role of antibiotics in dissemination of fungus disease. *Arch Pathol* 1950;50:591.
3. Frater RM, Soero RWN, Fishman WH, Strom JA. Influence of vegetation size on clinical outcome of right sided infective endocarditis. *Am J Med* 1986;80:165.
4. Kay PH, Oldershaw PJ, Dawkins K, Lennox SC, Paneth M. The results of surgery for active endocarditis of the native aortic valve. *J Cardiovasc Surg* 1984; 25: 321-326.

5. Kinsky SC. Alteration in the permeability of *Neurospora crassa* due to polyene antibiotics. *J Bacteriol* 1961; 82:889.

6. Comfort MG, Kobayashi GS. Synergistic action of amphotericin B and 5-flucytosin against yeast like organisms. *Proc Exp Med* 1971; 138:571.

7. Curry CR, Quice PG. Fungal septicemia in patients receiving parenteral hyperalimentation. *N Engl J Med* 1971;285:1221.

8. Beckman CR, Knill EC Jr. Bacterial and fungal infection complicating parenteral alimentation in infants and children. *J Paediatr Surg* 1970;5:117. ■