ASPERGILLUS FUMIGATUS ENDOCARDITIS

Pages with reference to book, From 95 To 96

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INTRODUCTION

Endocarditis due to Aspergillus fumigatus (Af) is uncommon[1,2]. The following case of Af endocarditis was diagnosed by Echocardiography and treated by open heart surgery. With the availability of potent antifungal drugs and the possibility of removing valvular lesions by open heart surgery, establishment of the diagnosis of fungal endocarditis has practical as well as academic importance.

CASE REPORT

A 35 years old housewife with a previous diagnosis of infective endocarditis, was referred with 8 months history of continued fever, headache, blackout spells, dyspnoea, palpitation and weight loss. She had no significant past history of any other illness. She did not respond to large doses of penicillin and other antibiotics parenterally previously. On physical examination, she was ill looking and wasted with a low grade fever and clubbing. Spleen was 4 cms below the left coastal margin. Cardiac rhythm was regular with a grade 3/6 harsh ejection systolic murmur loudest at the apex and aortic areas radiating to the neck. Laboratory data revealed baemoglobin of 11.8 gm%, white cell count 15,00/cmm with 65% neutrophils, erythrocyte spedimentation rate of 76mm in first hour. Urine analysis, blood urea nitrogen, serum bilirubin, liver function tests and electrolytes were within normal limits. Antistreptolysin “0” titre was 166 TU. Venous blood cultures were negative on 6 occasions. Throat culture grew staphylococcus aureus Coagulase positive. X-rays of the chest and fluoroscopy were unremarkable. Twelve lead E.C.G. revealed normal sinus, rhythm with left axis deviation. Two dimensional echocardiography obtained by ATL model 600B showed normal left ventricular size and function, thickened aortic valve with large echogenic mass of 1.2x 1cm attached to the non- coronary cusp, prolapsing into the left ventricular outflow tract during diastole and was producing left ventricular outflow obstruction during systole gradient could not be assessed due to non-availability of Doppler. Mitral valve was normal (Figure).

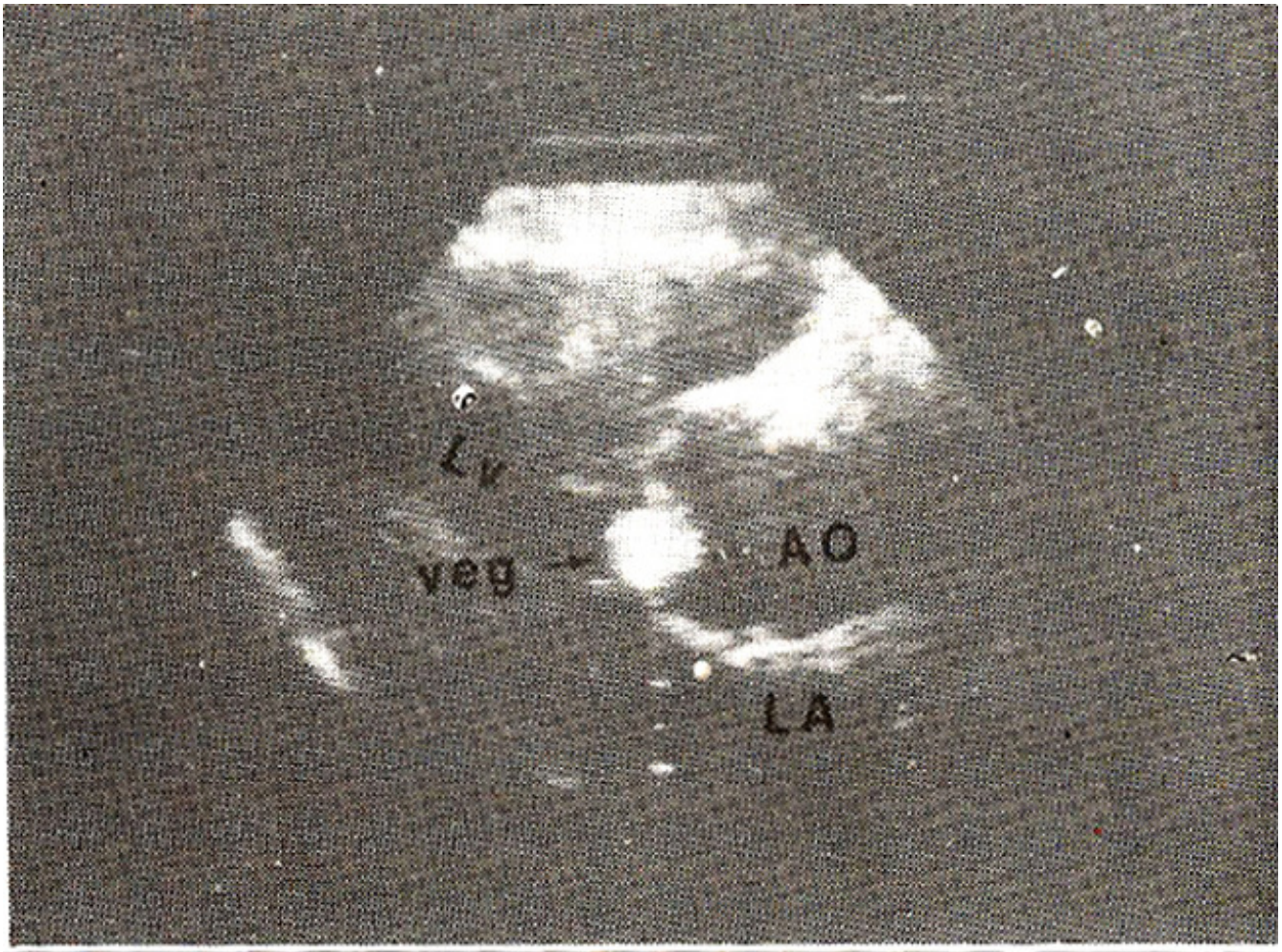

Figure. Echocardiography showing thickened aortic valve with a large echogenic mass, marked as Veg.

Open heart surgery for excision of diseased aortic valve alongwith vegetation and prosthesis by Starr Edward's was decided. After establishing the routine cardiopulmonary bypass procedure, aortotomy was done. The naked eye examination showed the aortic root and three leaflets reddish thin and pliable. There was a roundish vegetation of about 1.5 x 1cm size stuck to the free border of non-coronary cusp, obstructing the outflow tract. Aortic valve was excised and replaced by Starr Edward's 7A Prosthesis. The patient came off bypass without any support, sternotomy was closed by routine procedure. Post-operatively the patient continued to be prexic. After 48 hours tissue culture and microscopy established the diagnosis of Af endocarditis and patient was started on 1mg/kg amphotericin B as infusion. Histology of the aortic valve showed extensive fibrosis with focal areas of calcification and patchy endocardial ulceration with marked acute and chronic inflammatory cell infiltration and excessive deposition of hemosiderin pigment with necrotic cellular debris and fibrin. The vegetation composed of radiating, branched and septate hyphae. Amphotericin B was continued for 6 weeks. The patient was followed for 8 months. She gained weight and remained asymptomatic.

DISCUSSION

In the present case clinical diagnosis of infective endocarditis was made from the very beginning, however repeated sterile blood cultures and no response to broad spectrum antibiotics, aroused the

suspicion of fungal infection. Echocardiography strengthened this suspicion which was then confirmed by surgical removal, microscopy and culture of Af. Blood cultures were negativebecause of the left sided cardiac lesion and the infective hyphal particles may be too large to traverse the systemic capillary bed and never or rarely entered the venous system, from where the blood was taken for culture[3]. She was given neither anti-inflammatory nor cytotoxic drugs. However it is possible that the large doses of penicillin and other antibiotics administered previously, disturbed the normal body flora resulting in establishment of the Aspergillus[4]. The other possible portals of entry are multiple venepunctures, intravenous infusions or some unidentified focus in the respiratory or gastrointestinal tract[5,6]. Surgical treatment was decided on the basis of previous studies[7,8] which recommend operation when fever persists for 3 weeks and the vegetation is 1cm in diameter even in the absence of cardiac failure. Similarly valve replacement alone seemed unwise, since patients have disseminated disease at the same time, thus chemotherapy must be constituted, if possible in combination, as many aspergilus species are resistant to Amphotericin B and 75% are resistant to flucytosin[9,10]. It is stressed that fungal endocarditis should be considered in patients with known systemic fungus disease with signs suggestive of endocarditis, especially if there is a significant heart murmur and evidence of major emboli and in patients with apparent infective endocarditis in whom routine blood cultures are sterile.

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