



Case Report

INFECTIVE VEGITATION AT SITE OF AORTIC COARCTATION - INFECTIVE ENDARTERITIS - A RARE PRESENTATION

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ABSTRACT:

In congenital heart disorders, endocarditis most commonly occurs around valves or prosthetic material. Formation of infective vegetation and development of endarteritis at site of coarctation is a rare entity. We describe a case of 27 year old male, presented to us with history of fever. On investigation he was diagnosed as case of Aortic coarctation endarteritis. Patient was treated with antibiotics for 6 weeks, and endovascular stenting was planned after reviewing again after 2 month, but the follow up was lost

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INTRODUCTION:

Patent bicuspid aortic valve, coarctation of aorta, ventricular septal defect, and tetralogy of Fallot are congenital heart diseases which predispose a highest risk for infective endocarditis.¹ This predisposition to infective endocarditis is mainly due to flow irregularities associated with these anomalies. Turbulence and endothelial damage secondary to shear stress create an environment for bacterial seeding and subsequent development of vegetation.²

We present a case of a patient with coarctation of aorta (CoA) which was previously unknown for it and developed infective endarteritis at site of coarctation. Transesophageal Echocardiography (TEE) proved to be the key investigation for establishing the diagnosis.

CASE REPORT:

27 year old man presented with history of fever up to 102° F with associated weight loss for about 2 month. He was hypertensive for 10 years and was on medication for it. He was ex-smoker, however denied any IV drug addiction. He had taken different antibiotics for fever but remained symptomatic. His physical examination showed weak pulses of lower limbs as compared to radial pulse. Blood pressure was 150/85 mmHg in upper limbs but 130/70 mmHg was recorded in lower limbs. A grade 3/6 systolic murmur was noted in left upper parasternal border with radiation to back in interscapular region. Fundus examination was normal (Fig 1,2).

Laboratory investigation revealed WBC count of 15.3X10³/ul with ESR 60 mmHg. Blood cul-

tures were negative (probably patient had taken several antibiotics over 4 weeks). Chest X-ray was normal. ECG showed early repolarization in lead I,II,avf and V6. On Transthoracic echocardiography (TTE), cardiac valves were normal with no vegetation. Suprasternal view was carried out which demonstrated a high speed forward flow with saw tooth spectral doppler pattern demonstrating a peak gradient of 58 mmHg and a slow diastolic decrease in velocity (Fig 3,4), a finding consistent with CoA.

TEE was done which showed no vegetation at any valve with mild aortic regurgitation but the aortic coarctation site was missed to be observed for vegetation. A thorough clinical examination was carried out again which showed a history suggestive of infective endocarditis. So, a repeat TEE was requested to focus the coarctation segment for vegetation which showed small oscillating mass attached to aortic wall at site of coarctation, suggestive of vegetation (fig 5,6).

Intravenous Penicillin G and Gentamicine were started and patient became afebrile after 5 days. CT-Aortogram was done within week which demonstrated CoA with multiple collaterals but no aneurysm (Fig 7, 8).

As there was no immediate complication like aneurysm and patient responded to antibiotics, so patient was kept on medicines for 6 weeks in hospital and then discharged with a plan of reviewing again after 2 month for endovascular stenting or surgery. But we lost follow up of this patient.

DISCUSSION:

Congenital cardiovascular abnormalities that

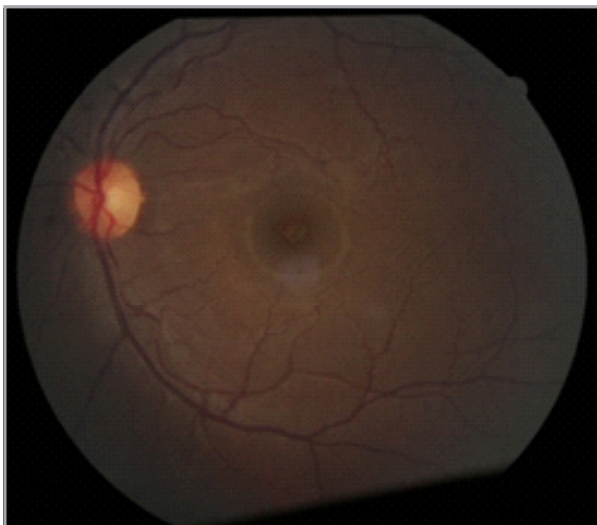


Figure-1: Fundoscopic examination



Figure-2: Fundoscopic examination

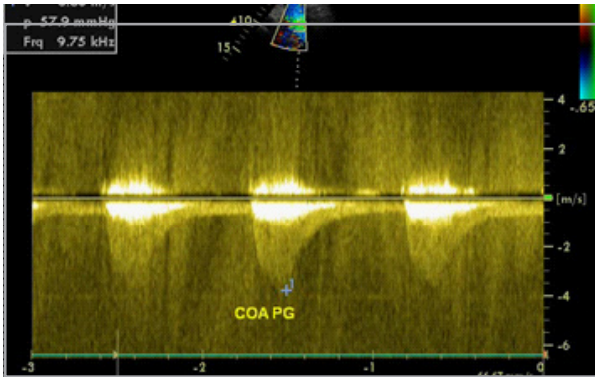


Figure-3: Colour, doppler across coarctation showing increased gradient

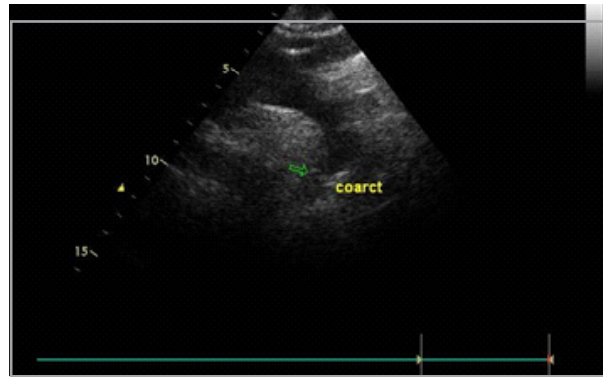


Figure-4: Supra sternal view showing coarctation of aorta

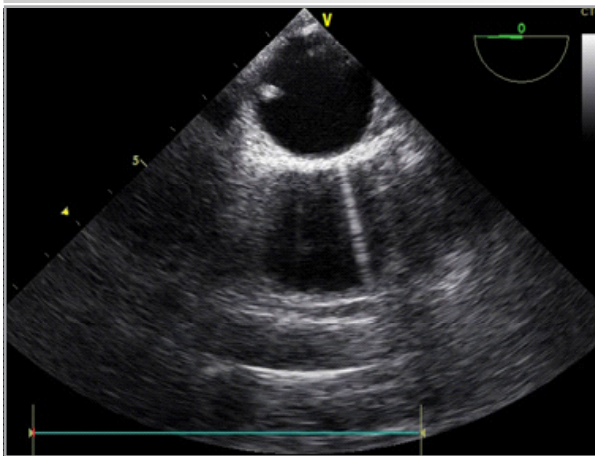


Figure-5: Vegetations in aorta

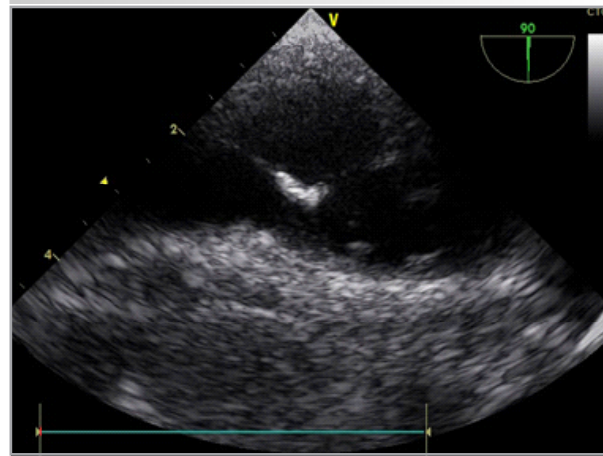


Figure-6: Vegetations over coarctation

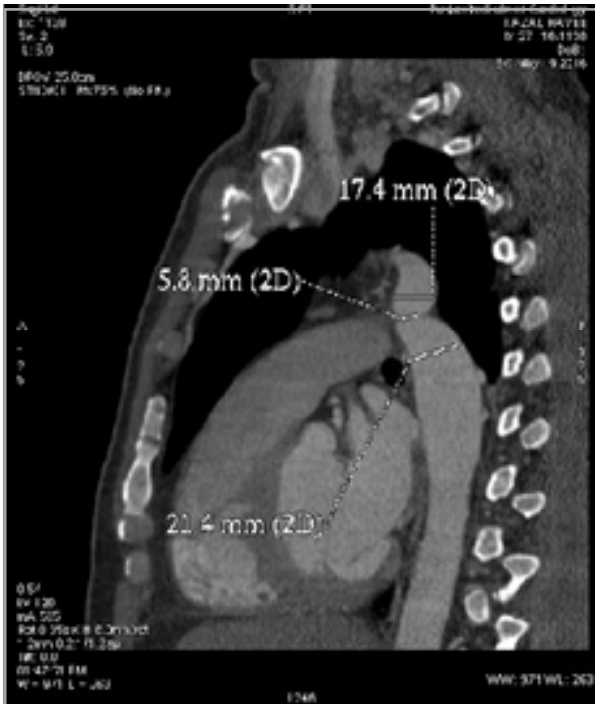


Figure-7: CT Angiogram showing coarctation of Aorta



Figure-8: CT Angiogram showing coarctation of Aorta



cause alteration in blood flow dynamics are prone to developing endovascular infection. The stripping of endothelium and entry of bacteria into bloodstream is needed to develop infective endocarditis. The damaged endothelium is hemodynamic consequence of high velocity jet from high pressure to low pressure chambers due to small orifice between two chambers creating a pressure gradient.³ Usual site of vegetation in case of CoA is distal to coarctation segment where high velocity jet initiates endothelial trauma and makes this site prone to microbial adhesion. However it is seen that endocarditis of associated bicuspid aortic valve is more common as compared to endarteritis at site of coarctation.⁴ Microorganisms causing endarteritis are similar to that of pathogens that are involved in infective endocarditis. Most common of which are streptococcus viridans, coagulase negative staphylococcus, HACEK group and staphylococcus aureus.⁵ Nowadays CT scan or MRI are the chosen modality for assessment of coarctation and aneurysm. However echocardiography is still the

best initial investigation to make a diagnosis of coarctation. Suprasternal view should be carried out in every patient so that aortic arch and descending aorta can be visualized. TEE should be done in selected patients for detailed morphological evaluation of coarctatic segment and post stenotic dilation or mycotic aneurysm.

One of the most lethal but infrequent complication of endarteritis is development of mycotic aneurysm due to bacterial seedling and destruction of arterial wall. It has high morbidity and mortality due to risk of expansion and rupture. So, it is necessary to make an early diagnosis and starting the treatment. Starting of correct antibiotics is essential but it does not preclude the development mycotic aneurysm. Serial CT scan or MRI can be helpful to see the increase in size to make a decision of early surgery.⁶

To conclude, though aortic coarctation endarteritis is rare but high index of suspicion is necessary because of its drastic complication in the form of mycotic aneurysm. Which can be prevented by early intervention.

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