

Syphilitic Aortic Regurgitation – An Unusual Case

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Abstract

Tertiary syphilis with cardiovascular lesions are rarely seen nowadays. Here we report a case of a 43 year old patient diagnosed with aortic regurgitation due to syphilitic aortitis.

Introduction

Syphilis can manifest as primary, secondary, latent and late (tertiary) syphilis. The late (tertiary) syphilis is usually slowly progressive and any organ of body may be involved and the three main types are gummatous, cardiovascular and neurosyphilis.

Cardiovascular syphilis may develop after a latency period of 15 to 30 years. It involves the ascending aorta and the arch and can cause aortic aneurysm, aortic regurgitation and coronary ostial stenosis due to syphilitic aortitis.

Case Report

A 43 year old male presented with history of effort angina and exertional dyspnoea for the past 2 years. He was not hypertensive or diabetic mellitus. His past history revealed no history suggestive of rheumatic heart disease, congenital heart disease or connective tissue disorder. He was not an alcoholic, smoker or intravenous drug abuser but revealed history of risky sexual behaviour. His family history was unremarkable.

On physical examination, patient was conscious, oriented, not anaemic, eupnoeic, acyanotic, anicteric, not oedematous and afebrile. His pulse

rate was 84/minute, high volume, collapsing in type. B.P was 160/80 mm Hg. No skeletal deformities, skin and mucosal lesions were seen. CVP was not raised. He had peripheral signs of aortic regurgitation.

Cardiovascular examination revealed loud A2 ('bruit de tambour') and an early diastolic murmur which is better heard on the right sternal border. Examination of other systems was normal. Routine urine and blood investigations were normal. His other blood investigations ASO titre, rheumatoid factor, ANA and ANCA were negative.

The serology for syphilis by rapid plasma reagin (RPR) test was positive which was confirmed by *Treponema pallidum* haemagglutination (TPHA) test which turned to be highly reactive.

The chest x-ray (Figure 1) revealed cardiomegaly with ascending aorta dilatation.

The ECG (Figure 2) showed left ventricular hypertrophy with volume overload pattern. The echocardiogram (Figures 3, 4) showed dilated aortic root with dilated ascending aorta and aortic regurgitation. There were no other valve lesions. The CT angiogram (Figure 5) was done which confirmed the same findings. The working diagnosis was syphilitic aortitis and the patient was treated with penicillin with some degree of symptomatic relief and is under observation.

Discussion

In the antibiotic era, prevalence of syphilis is becoming a rare disease.

Syphilis most commonly involves the ascending aorta, because it has a richer lymphatic supply. The primary lesion of cardiovascular syphilis is aortitis, an inflammatory response to the invasion of aortic wall by the *Treponema pallidum* characterized by perivascular lymphocytic and plasma



Fig. 1: Chest radiograph showing cardiomegaly with ascending aorta dilatation

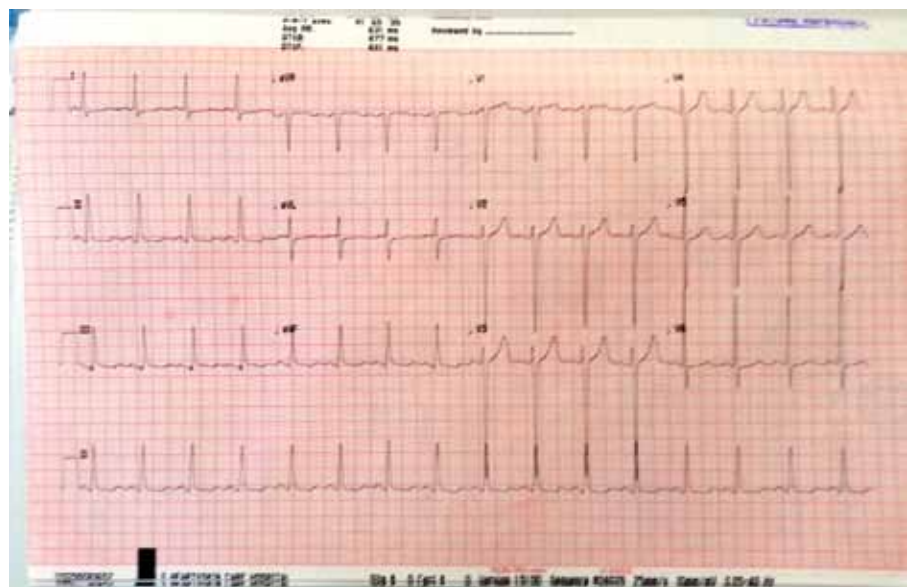


Fig. 2: ECG showing left ventricular hypertrophy with volume overload pattern



Fig. 3: Echo showing dilated aortic root and dilated ascending aorta

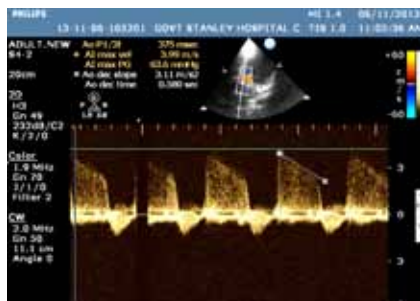


Fig. 4: Echo showing aortic regurgitation



Fig. 5: CT angiography showing dilated aortic root and dilated ascending aorta

cell infiltrate that leads to obliterative endarteritis of the vaso vasorum and results in periaortitis and necrosis of the elastic fibres and connective tissue in the aortic media (mesoaortitis). The replacement with fibrous tissue leads to weakening of the aortic walls and saccular or fusiform aneurysm formation. The aorta assumes a 'tree bark' appearance due to wrinkling of the intima. The infection and inflammation may extend into the root of the aorta causing dilatation of the aortic annulus resulting in aortic regurgitation. Coronary ostial stenosis results in angina pectoris.¹⁻³ The anginal attacks come on at rest, last for a longer period and not relieved by nitrates.

Treatment of cardiovascular syphilis

with penicillin prevents further progression of the disease.

Surgical intervention may be required for luetic aneurysm and aortic regurgitation. Coronary ostial stenosis may be treated by endarterectomy or bypass grafting.^{4,5}

In conclusion, the definitive diagnosis of syphilitic aortitis was made in this patient by the presence of aortic regurgitation with dilated aortic root and dilated ascending aorta accompanied by a history of high risk behaviour and reactive serology.

In the era of decreasing incidence of syphilis, high index of suspicion with timely diagnosis and prompt medical management with surgical interventions might definitely improve

the outcome.

References

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