

Interventricular septum involvement with complete atrioventricular block as first manifestation in Takayasu arteritis

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INTRODUCTION

The cardiovascular involvement in Takayasu’s arteritis (TA) is frequent, although presence of arrhythmias or atrioventricular block (AVB) as initial manifestation is uncommon. However, inflammatory process in the cardiac conduction system has been described.¹

CASE SUMMARY

A 39-year-old woman presented to the emergency room with syncope. The ECG (Figure 1) showed third-degree AVB. At physical examination she had aortic and mitral regurgitation murmur, absent pulses, difference in blood pressure between arms greater than 10 mmHg. Acute phase reactants were increased and TA was suspected.

The echocardiogram showed moderate aortic and severe mitral regurgitation with LVEF 60%. The MRI

shows supra-aortic vessel stenosis (Figure 2A), thickening of the ascending aorta (Figure 2B), membranous interventricular septum, and mitral aortic junction (Figure 2C) with late enhancement (Figure 2D). TA was confirmed by the classification of the American College of Rheumatology.

Non-significant right coronary stenosis secondary to the ascending aorta wall thickening was demonstrated by coronary CT angiography (Figure 3A, B). FDG PET-CT scan revealed intense radiolabel uptake in the walls of the ascending and descending aorta and carotids (Figure 3C, D), with 3.3 SUV units. Inflammatory activity was demonstrated. She was treated with methotrexate, glucocorticoids, and permanent pacemaker implantation. After 2 years follow-up, the patient remained stable and asymptomatic.

Third-degree AVB as the initial manifestation of TA is rare and only isolated cases have been reported.¹ In our case, images showed thickening in the aortic root

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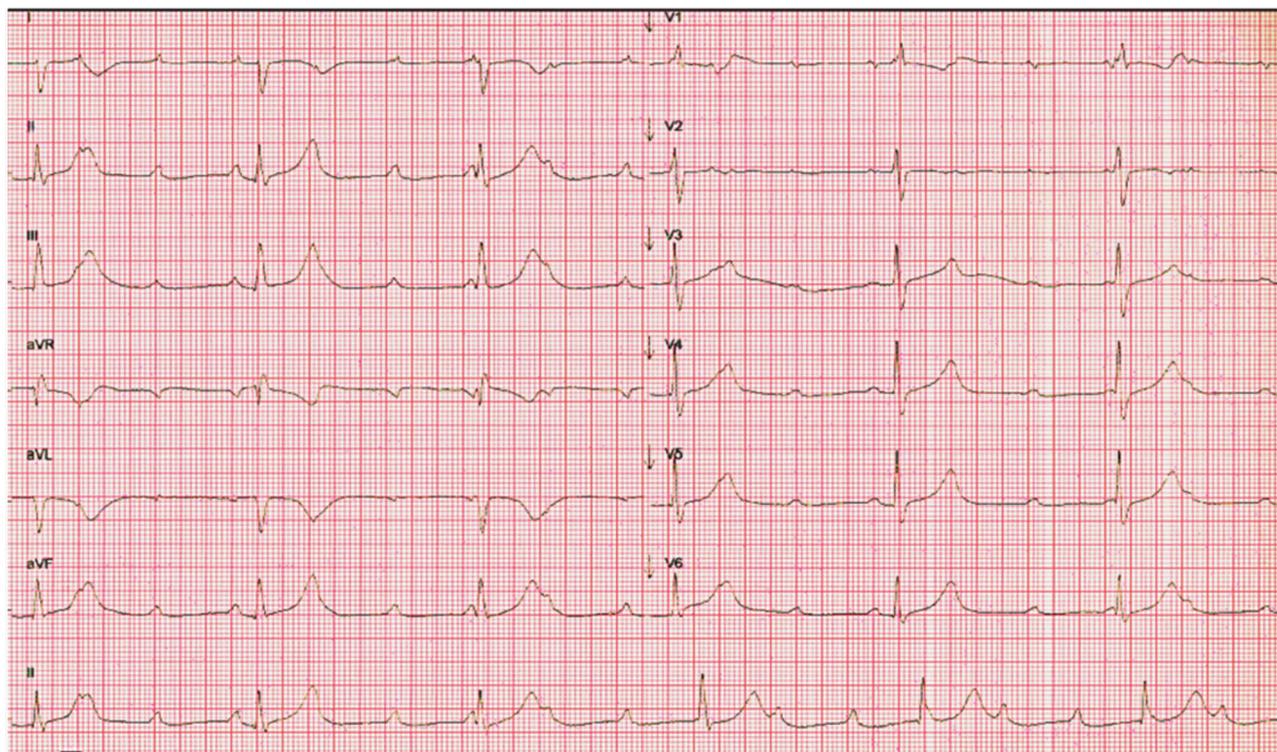


Figure 1. Twelve-lead ECG at the time of admission shows third-degree atrioventricular block.

and basal interventricular septum near to the AV node localization and are compatible with pathological findings that have demonstrated inflammation with lymphocytic infiltration and scarring in the conduction

system in TA patients.^{2,3} Degenerative cause of the AVB in young people is rare, therefore TA should be considered in the differential diagnosis. Imaging is helpful in the diagnostic and follow-up of TA.

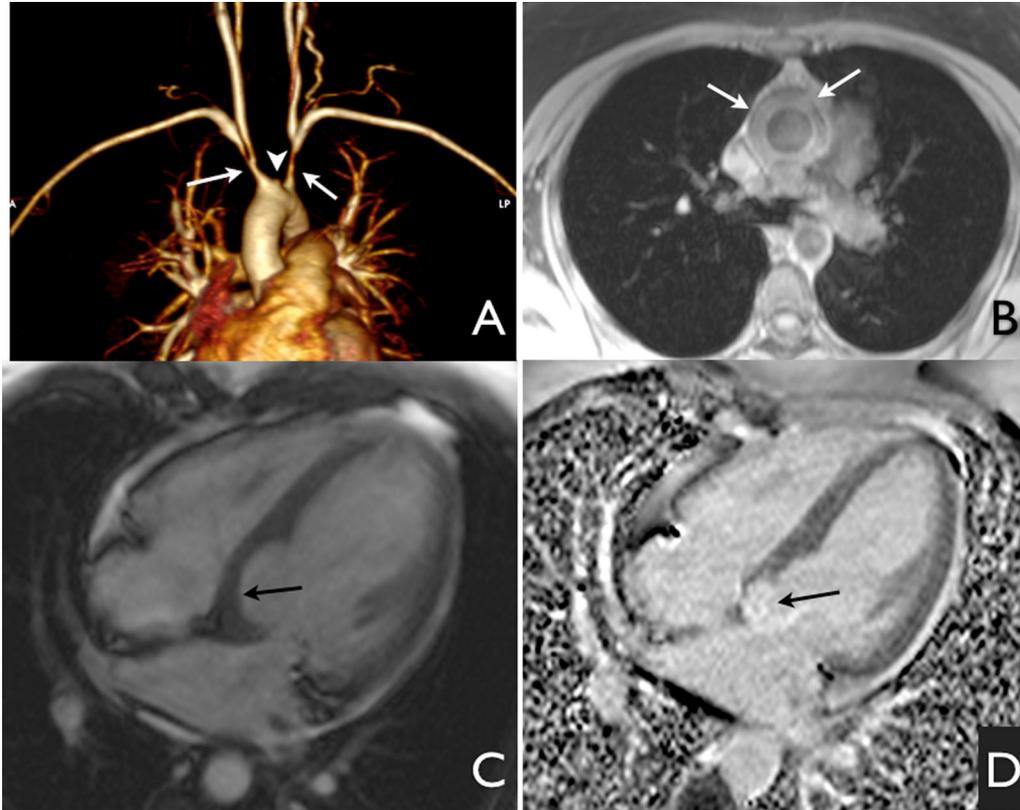


Figure 2. Cardiac Magnetic Resonance: **A** Volumetric reconstruction of thoracic angiography. Significant stenosis of the brachiocephalic trunk and left subclavian artery (arrow) and occlusion of the proximal segment of left common carotid artery (arrow head). **B** Fat sat T1-weighted transaxial image, demonstrating ascending aortic thickening (arrow). **C** Four chamber cine image with basal interventricular septum thickening (black arrow). **D** Inversion recovery sequence at the same level that C, arrow shows late enhancement at the basal interventricular septum (black arrow).

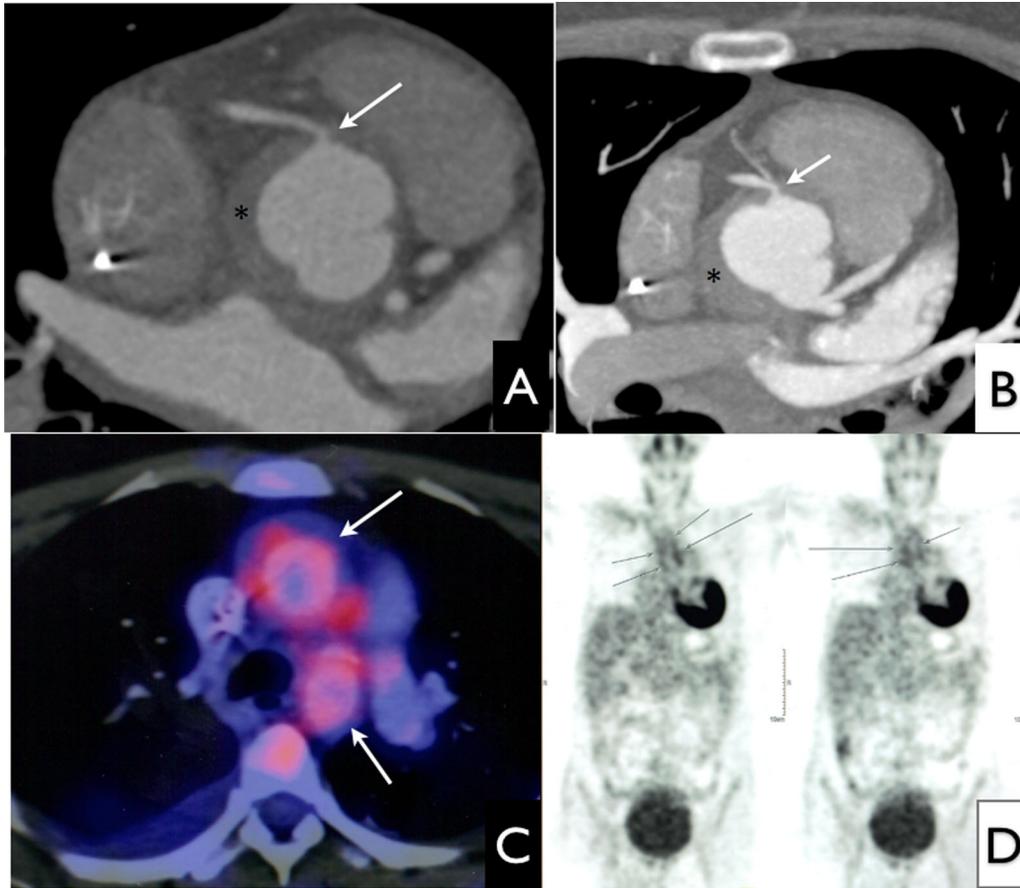


Figure 3. A–B Coronary CT angiography with non-significant right coronary ostial stenosis (arrow) secondary to the ascending aorta wall thickness (*). C–D FDG PET-CT scan revealed intense radiolabel uptake in the walls of the ascending and descending aorta (arrow).

Disclosures

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