

# Aortic regurgitation due to takayasu's arteritis

## Case report

We present the case of a 37-year-old woman who began her cardiovascular history with the detection of an indeterminate heart murmur in the first pregnancy, which was not followed up. In the second pregnancy, she presents severe preeclampsia, since then with chronic arterial hypertension, in follow-up a significant difference in blood pressure between both upper extremities is also detected. She presented deterioration in the functional class and hypertensive uncontrol, so he went to our hospital for assessment by cardiology. To auscultation, with murmur of decreasing holodiastolic aortic epicenter, intensity III / IV irradiated left sternal border; Flint Austin murmur present. Celler carotid pulses, right subclavian path with systolic thrill; intense palpable pulse under right clavicle and supra sternal hollow. Upper limbs with asymmetrical trophism, blood pressure right arm 240/80mmHg, blood pressure left arm 200/80mmHg. Lower limbs with a right lower femoral pulse. Electrocardiogram with sinus tachycardia. (Figure 1)

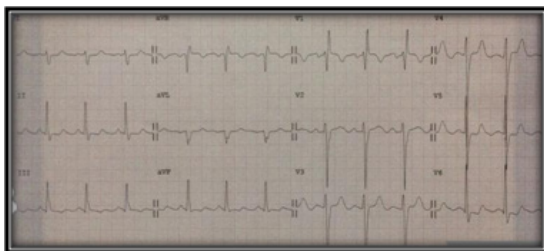


Figure 1 Angiotomography.

Transthoracic echocardiogram was performed in which trivalva aortic valve was observed with limited coaptation of the cusps that produces severe regurgitation, vena contracta of 6 mm, EROA of 0.5 cm<sup>2</sup>, aortic root of 36 mm, ascending aorta 35 mm, LVED 51mm, LVEF 59%. (Figure 2 & Figure 3) Severe aortic regurgitation was diagnosed, with Takayasu arteritis as probable etiology. Thoracic angiotomography and angiography were performed, showing areas of stenosis in the left carotid and the left subclavian artery. (Figures 4–7) The final diagnosis was severe aortic insufficiency secondary to dilation of the aortic root due to Takayasu's arteritis by Ishikawa criteria. Treatment with aortic valve replacement with mechanical prosthesis was decided.

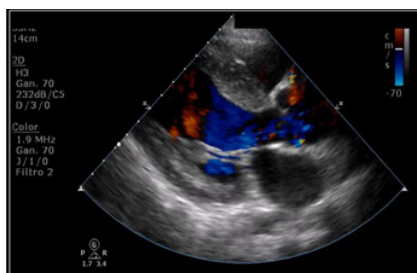


Figure 2 Angiotomography.

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Marín Rangel Claudia Denisse, Rodríguez Sánchez Robert, Lugo Guadarrama Roberto, Delgado Leal Luis, Pascual Reyes Jesús, Sandoval Rodríguez Eufracino

Cardiology Department Centenario Hospital Miguel Hidalgo, México

**Correspondence:** Delgado Leal Luis, Department of Cardiology, Centenario Hospital Miguel Hidalgo, México, Email guicho.ags@hotmail.com

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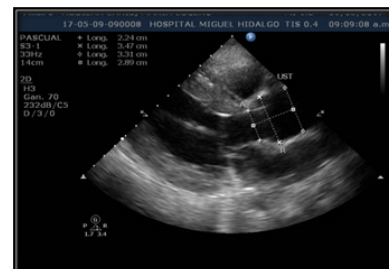


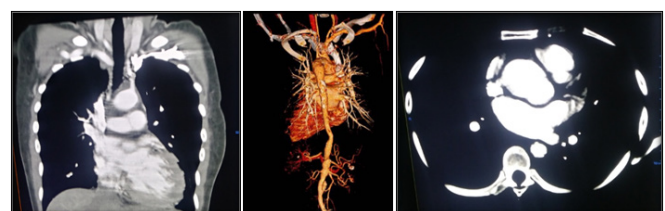
Figure 3 Angiotomography.



Figure 4 Angiotomography.



Figure 5 Angiotomography.



Figures 6–8 Angiotomography.

Takayasu arteritis is a granulomatous vasculitis that affects large arteries such as aorta and supra-aortic trunks, more frequent in young women of Asian and Latin American origin. The etiology is unknown, but genetic and immunological factors are postulated. Pathological anatomy shows thickening and stiffness of the wall of the aorta and its branches due to fibrosis. It is a cause of dilation of the aortic root and ascending aorta leading to aortic regurgitation.<sup>1-6</sup> Aortic regurgitation can be caused by the malformation of the leaflets, by dilation of the aortic root and the ring, or it can be due to a combination of these factors. In our environment, the most frequent causes of aortic regurgitation are congenital, degenerative and rheumatic disease. Echocardiography is the main tool for diagnosis and classification of severity. Other diagnostic methods are tomography and magnetic resonance imaging. Surgery is necessary in case of severe failure with symptoms; dilatation of the aortic root, ejection fraction less than 50%, LVEDD > 70mm, LVESD > 50mm or BSA 25mm<sup>2</sup>. If surgery is indicated, echocardiography should evaluate if a valve repair repair is feasible or if valve replacement should be performed. Valvular replacement, either mechanical or biological, is the mainstay of surgical treatment.<sup>1,6-10</sup> Patients with mild or moderate impairment can be managed conservatively unless surgery is indicated for correction of concomitant injuries. Even severe insufficiency can be managed conservatively provided that the patient remains asymptomatic, without dysfunction or dilatation of the LV. Regarding medical treatment, the evidence is limited, and until now the mainstay of the treatment remains surgical.<sup>1,3,8</sup>

### Conflict of interest

The author declares that there is no conflict of interest.

### Acknowledgments

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