Unusual findings in hypertension screening: aortic coarctation, double orifice mitral valve, and patent ductus arteriosus

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A 26-year-old Ecuadorian woman was admitted to a cardiac consultation because of a systolic cardiac murmur and persistent arterial hypertension despite treatment. She complained about dyspnoea and lower limbs weakness on exertion.

Auscultation revealed a rude aortic systolic murmur and a mitral systolic murmur. Femoral pulses were weak.

Owing to the suspicion of aortic coarctation, a transthoracic echocardiogram was performed. From the suprasternal window, the aortic arch appeared very tortuous with the blood-flow pattern in the descending aorta, suggesting the diagnosis mentioned hereinafore. The aortic valve had a normal shape and function. The mitral valve was dysmorphic, having two orifices (Panel A). A small patent ductus arteriosus was found.

A transoesophageal echocardiogram confirmed the aortic coarctation with dilation of the aorta both proximal and distal to the stenosis. The gradient of the systolic pressure through coarctation was 135 mmHg. Mitral valve characteristics were analysed in detail (Panels C and D).

A 16-slice cardiac computed tomography completed the anatomic assessment of the findings described above (Panel B). It showed severe aortic coarctation at the level of patent ductus arteriosus with an anterior loop and dilation of the aortic segment proximal to the stenosis (Panel E). As a result of coarctation, prominent collateral circulation had developed. An increase of the size of intercostal arteries was found causing rib notching (Roesler’s sign) (Panel F).

Owing to the severity of the coarctation and taking into account the anatomy and characteristics of the patient, the decision was made to perform endovascular dilation and stenting of the aorta.