

CASE IMAGE

Giant aneurysm of ascending aorta in a child

Çocukta dev çıkan aort anevrizması

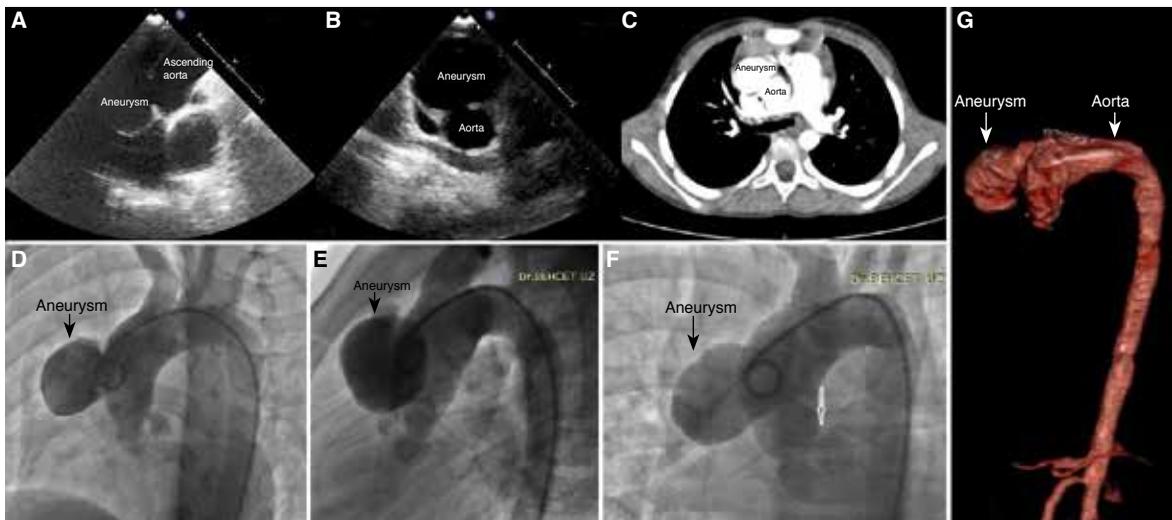
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A 5-year-old boy was referred to the present clinic with severe aortic stenosis and indication of percutaneous balloon valvuloplasty. The patient's parents were consanguineous in the second degree, and he had no obvious phenotypic dysmorphic features suggesting syndromic etiology, with the exception of

short stature, which is under investigation in pediatric endocrinology. Transthoracic echocardiography (TTE) revealed that the aortic valve had 3 cusps and was severely stenotic, with a peak to instantaneous gradient of 100 mmHg. A hypochoic chamber connected to the ascending aorta was visualized (Figure A, B). As TTE was insufficient for determination of detailed anatomy of this chamber, cardiac catheterization and angiography were performed. Aortic root angiography in left anterior oblique cranial position

demonstrated a huge ascending aortic aneurysm of 30x27 mm (Figure D). Aneurysm was confirmed by contrast material injections in other positions (Figure E, F). In addition, stenosis was at supravalvular level close to the origin of the left main coronary artery (Figure F). No intervention was performed, and surgical team was consulted. Meanwhile, cardiac computed tomography (CT) also showed that the aneurysm was originating from the left side of the ascending aorta, and was anteriorly extending (Figure C, G). Most aortic aneurysms are located in the abdominal part of the aorta, and ascending aortic aneurysms primarily occur in the elderly population. Although aortic aneurysms in older adults are usually associated with hypertension, smoking, and hypercholesterolemia, aortic aneurysms in children and young adults generally occur with inherited syndromes. However, in the present patient, the turbulent jet of supravalvular aortic stenosis may have led to weakening of the aortic wall, causing aneurysmatic dilatation. Mycotic and infectious aneurysms may also be found in the pathways of turbulent jet flows, causing endothelial injury. Currently, the patient is under investigation for inherited disorders.



Figures– (A) Modified two-dimensional suprasternal echocardiographic view showing an aneurysm originating from the ascending aorta. (B) High-parasternal echocardiographic view demonstrating a spherical aneurysmatic chamber connected to the ascending aorta. (C) Cardiac CT image revealing an aneurysm originating from the ascending aorta and extending to the anterior thoracic wall. (D) Aortographic view (30° left anterior oblique, -15° cranial) showing a giant aneurysm originating from the ascending aorta. (E) Left lateral angiographic view showing the aneurysm extending to the anterior thoracic wall. (F) Anteroposterior angiographic view showing the aneurysm and supravalvular stenosis at the level of the sinotubular junction (arrow), close to the origin of the left main coronary artery. (G) Three-dimensional reconstruction of CT image showing aneurysmal chamber connected to the ascending aorta.