Giant aneurysm of the Valsalva sinus associated with multiple coronary artery aneurysms and patent ductus arteriosus

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We report the case of a 42-year-old female referred to our institution for an incidental diagnosis of an aortic aneurysm.

Multislice 64-CT angiography showed a giant aneurysm of the Valsalva sinus, which extended to all three coronary arteries, and multiple aneurysms along the entire length of the coronary arteries (Panels A–C). The Valsalva sinus aneurysm was eccentric, more pronounced near the right coronary cusp (80 mm diameter) and extended to the origin of the right coronary artery (RCA), which had a diameter of 40 mm (Panels D and E) and an excessive tortuosity. The aneurysm also extended to the left main, which had a diameter of 44 mm. This giant aneurysm co-existed with a patent ductus arteriosus (PDA) (Panels B and D).

Surgical repair of the aneurysm and PDA ligation was performed, which resulted in a reduced size of the aortic root and of the origin of the RCA (Panel F).

Aneurysms of the Valsalva sinus can be congenital or acquired and are very rarely associated with coronary malformations. Coronary artery aneurysms (CAA) are very rare anomalies that occur in only 0.2–0.4% of all congenital heart diseases. The association of CAA with aneurysms of the Valsalva sinus and PDA is an extremely rare condition that has not been previously reported. The coexistence of three significant anomalies indicates a congenital aetiology of this complex malformation. The impressive size of the aneurysm and the aspect of the coronary arteries are striking and unique features of this case.

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