Images in cardio-thoracic surgery

Totally calcified aneurysm of the ascending aorta and arch in a 26-year-old male

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1. Brief description

A 26-year-old man underwent Dacron patch aortoplasty for aortic isthmic coarctation at 11 years of age. Fifteen years later he presented with exertional dyspnea. Chest X-ray (Figs. 1 and 2) showed cardiomegaly and calcific aneurysm of the ascending aorta extended to the arch. Two-dimensional transthoracic echocardiography demonstrated a severely incompetent bicuspid aortic valve with 40% left ventricular ejection fraction. The patient had normal renal function and normal Ca²⁺ level. At operation the aortic valve and ascending aorta were replaced with a 23 mm cryopreserved homograft while the aortic arch was replaced with a 24 mm vascular graft during a 35 min period of deep hypothermic circulatory arrest with selective cerebral perfusion. The patient made an uneventful recovery. Histology showed aspecific calcification and sclerosis of the aortic wall. The reason for such an extended calcification of the aortic wall in a young adult remains unclear.

Fig. 1. Chest X-ray in the postero-anterior projection showing marked cardiomegaly and dilatation of the ascending aorta.

Fig. 2. Chest X-ray in the latero-lateral projection showing the ascending aortic aneurysm and the total calcification of the aortic wall (arrowheads) extending to the concavity of the aortic arch and origin of the innominate artery.