Images in cardio-thoracic surgery

Multimodality imaging in the evaluation of aorta—right atrial tunnel

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Received 23 April 2011; received in revised form 17 May 2011; accepted 19 May 2011; Available online 6 July 2011

Keywords: Aorta—right atrial tunnel; Congenital; Fistula; Cardiac surgery

Aorta—right atrial tunnel is a rare congenital anomaly characterized by an extracardiac tunnel-like vascular communication arising from an aortic sinus and emptying into the right atrium (RA) (Fig. 1). We report the case of a 33-year-old man diagnosed following Streptococcus viridans endocarditis. The patient underwent successful surgical repair (Fig. 2). The proximal ostium was closed using a pericardial patch sutured inside the tunnel, distal to the takeoff of the left main coronary artery approximately 2 cm within the tunnel. The distal tunnel ostium was oversewn primarily in the RA.

Fig. 1. Preoperative imaging. (A) and (B) Coronary computed tomography, identifying a 10 mm aorta—right atrial tunnel (ARAT), originating in the left sinus of Valsalva and draining to the right atrium, adjacent to the coronary sinus ostium. (C) Coronary angiography of the ARAT and left coronary arteries.

Fig. 2. Operative findings. (A) Distal opening into the right atrium, behind a prominent Chiarri network (#). (B) Proximal ostium (*) from the left sinus of Valsalva (probe). (C) Proximal ostium after repair using a pericardial patch (§).