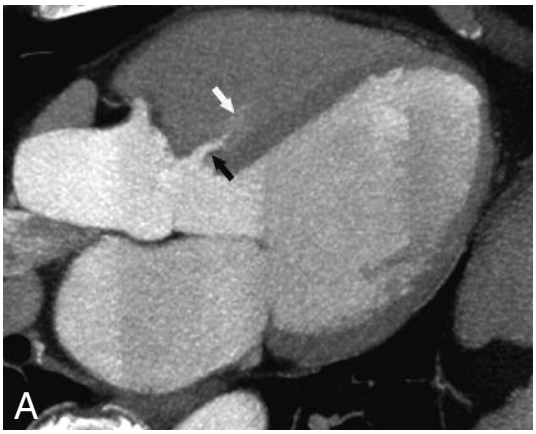
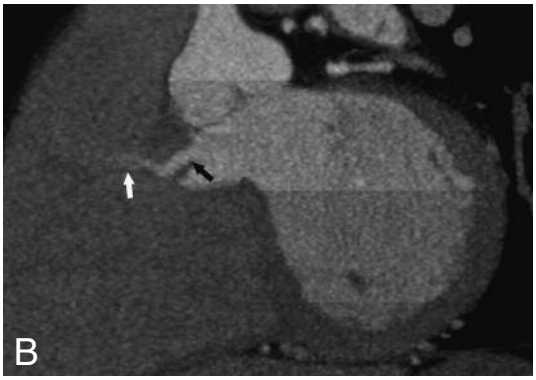
JBR–BTR, 2010, 93: 113.

IMAGES IN CLINICAL RADIOLOGY





Intracardiac defect demonstrated by cardiac CTA

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A 50-year-old woman with history of multiple pulmonary arteriovenous malformation embolisations caused by hereditary haemorrhagic telangectasia (Rendu-Osler-Weber syndrome), complained of atypical chest pain and dyspnea. Electrcardiographic (ECG) findings were normal and the bicycle stress test was equivocal. ECG-gated 64-row cardiac multidetector computed tomography (MDCT) showed no significant coronary stenosis, but a membranous ventricular septal defect (VSD) (Fig. A, B). Patient responded well to a treatment with beta-adrenergic blocker (Carvedilol 3.125 mg/day), and considering the surgical risks, no attempt to close the VSD was performed.

Comment

Congenital intracardiac defects allow communication of blood between the left and right cardiac cavities with left-to-right flow in most cases. The functional impairment caused by intracardiac septal defects primarily depends on the size of the defect, the status of the pulmonary vasculature, and the degree of shunting. Therapeutic options ranged from medical treatment to open or percutaneous closure and depend on the symptoms, the size and the type of defect. In general, the likelihood of success for percutaneous closure of cardiac defect increases with the amount of muscular rim which serves to land the closure device. Cardiac defects include VSD, ASD and atrio-ventricular septal defects. They may occur as an isolated lesion or in combination with other congenital cardiac anomalies. VSD are the most common of these defects and include 4 subtypes: (i) the type I (5%) are located in the outlet portions of the left and right ventricles abutting the conjoined annulus of the aortic and pulmonary valves; (ii) the type II (75%) occur around the membranous septum and the fibrous trigone of the heart; (iii) the type III (10%) are located in the posterior region of the septum beneath the septal leaflet of the tricuspid valve; and the type IV (10%) have entirely muscular rims.

In comparison to cardiac echocardiography or magnetic resonance imaging, cardiac gated MDCT may lack functional information, but this case illustrate its capacity to reveal intracardiac defects.

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