Windsock deformity of interatrial septum

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ABSTRACT

Classical "Windsock deformity" is associated with ruptured aneurysmal sinus of Valsalva. The echocardiographic definition for Atrial septal aneurysm (ASA) in children based on dimensions is lacking. Rupture of an ASA, though uncommon, may lead to cardiac failure due to acute RV volume overload. An untreated ASA may be complicated with thrombus formation.

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Classical "Windsock deformity" is associated with ruptured aneurysmal sinus of Valsalva. We describe an unusual presentation of an interatrial septal aneurysm as the "windsock deformity [Figure 1 and Video 1]."

An 8-month-old girl with congenital heart disease who presented with acute exacerbation of breathing difficulty since 2 months was referred for intracardiac repair. Preoperative transthoracic echocardiography revealed a 3.7 mm ostium secundum atrial septal defect, 7.6 mm subarterial ventricular septal defect (VSD), and good left ventricular function. In the Operating room (OR), after a standard anesthesia induction, heart was examined using a micro-transesophageal echocardiography probe (IE 33; Philips Medical Systems) which revealed an aneurysmal interatrial septum that ruptured at the tip shunting left-to-right. It was freely floating inside the right atrium giving the appearance of a classic "Windsock deformity [Figure 1 and Video 1]." It was abutting against tricuspid valve but did not protrude inside the right ventricle (RV) [Figure 2]. During surgery, the redundant aneurysmal portion of the atrial septum was excised, and the defect was closed directly along with patch closure of the VSD.

Atrial septal aneurysm (ASA) is defined as a localized "saccular" deformity generally at the level of fossa ovalis, protruding into the right or the left atrium [Figure 2]. The echocardiographic definition for ASA in children based on dimensions is lacking. An untreated ASA may be complicated with thrombus formation, systemic embolism, cardiac arrhythmias, infective endocarditis, and damage to tricuspid valve. Rupture of

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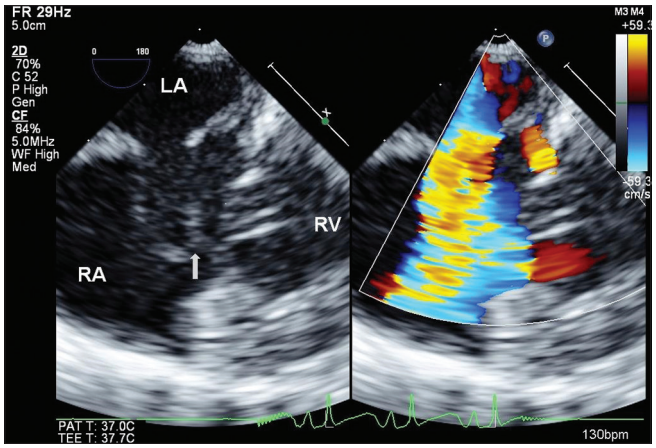

Figure 1: Color comparison at the right atrium obtained by rotating the probe clockwise from mid-esophageal 4-chamber view reveals interatrial septal aneurysm protruding in the RA and site of rupture (white arrow). RA: Right atrium; LA: Left atrium; RV: Right ventricle

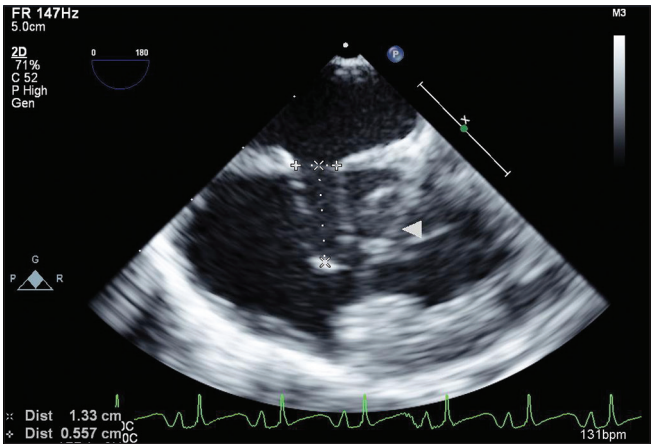

Figure 2: Right atrial view showing dimensions of atrial septal aneurysm. Note the proximity of the aneurysm with tricuspid valve (white arrowhead)

an ASA, though uncommon, may lead to cardiac failure due to acute RV volume overload. Excision of aneurysm followed by closure of the defect is the surgical treatment of choice.

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Conflicts of interest

There are no conflicts of interest.