

Abqari S, Rabbani MU, Meshram HS, Gupta A. An asymptomatic 11 year child with ruptured sinus of Valsalva. *Images Paediatr Cardiol* 2015;17(2):3-5.

# IMAGES in PAEDIATRIC CARDIOLOGY

**Abqari S, Rabbani MU, Meshram HS, Gupta A. An asymptomatic 11 year child with ruptured sinus of Valsalva. *Images Paediatr Cardiol* 2015;17(2):3-5.**

Department of Pediatrics and Centre of Cardiology, JNMCH, AMU, Aligarh, U.P., India.

## Introduction

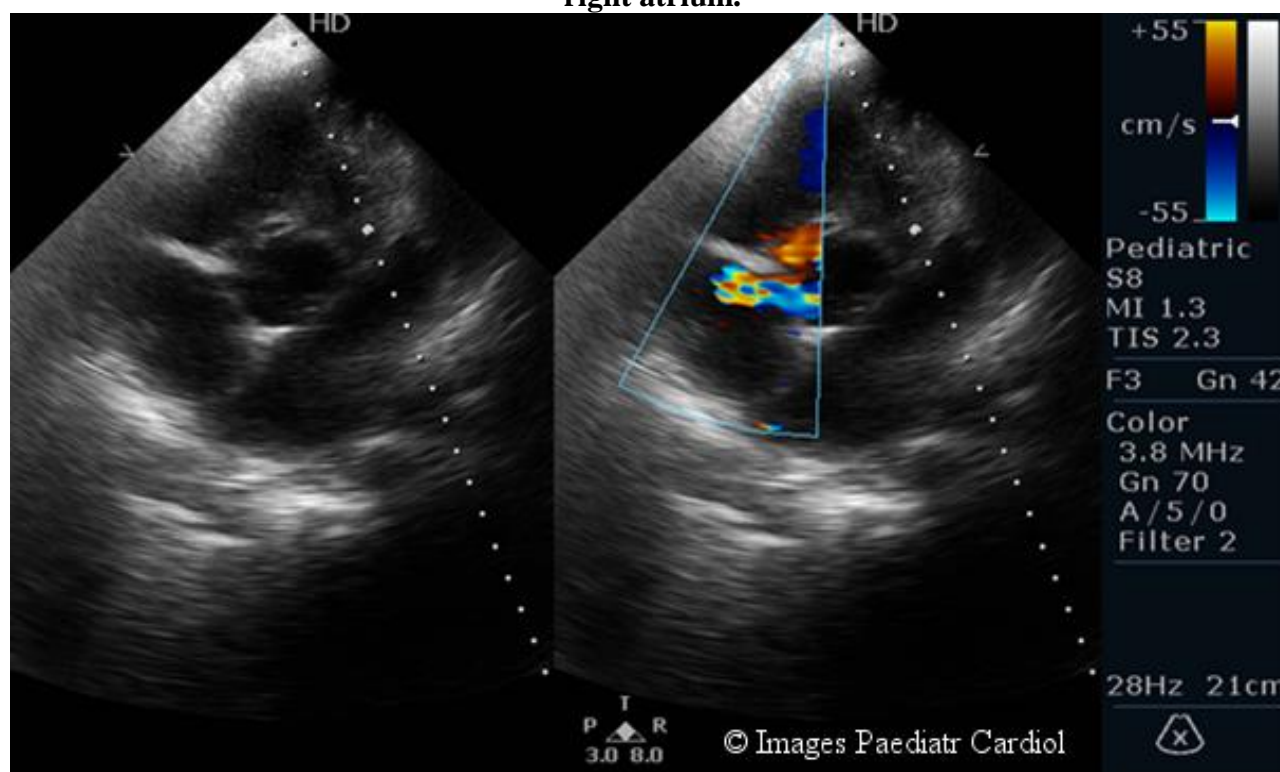
Ruptured sinus of Valsalva (RSOV) is a rare lesion in a paediatric age group.<sup>1</sup> A right sinus of Valsalva aneurysm usually ruptures into the right ventricle, while aneurysms of non-coronary sinus do so into the right atrium.<sup>2</sup> RSOV usually presents in the third decade of life with congestive heart failure and is more common among Asians with male predominance.<sup>3-5</sup> It may present as acute cardiogenic shock and sudden death or may remain completely asymptomatic with incidental detection by a murmur. Surgery is indicated as early as possible, once the diagnosis is made as without surgery, most cases will eventually succumb to uncontrollable congestive heart failure. Here we report an 11 year old child with the diagnosis of ruptured sinus of Valsalva.

## Case

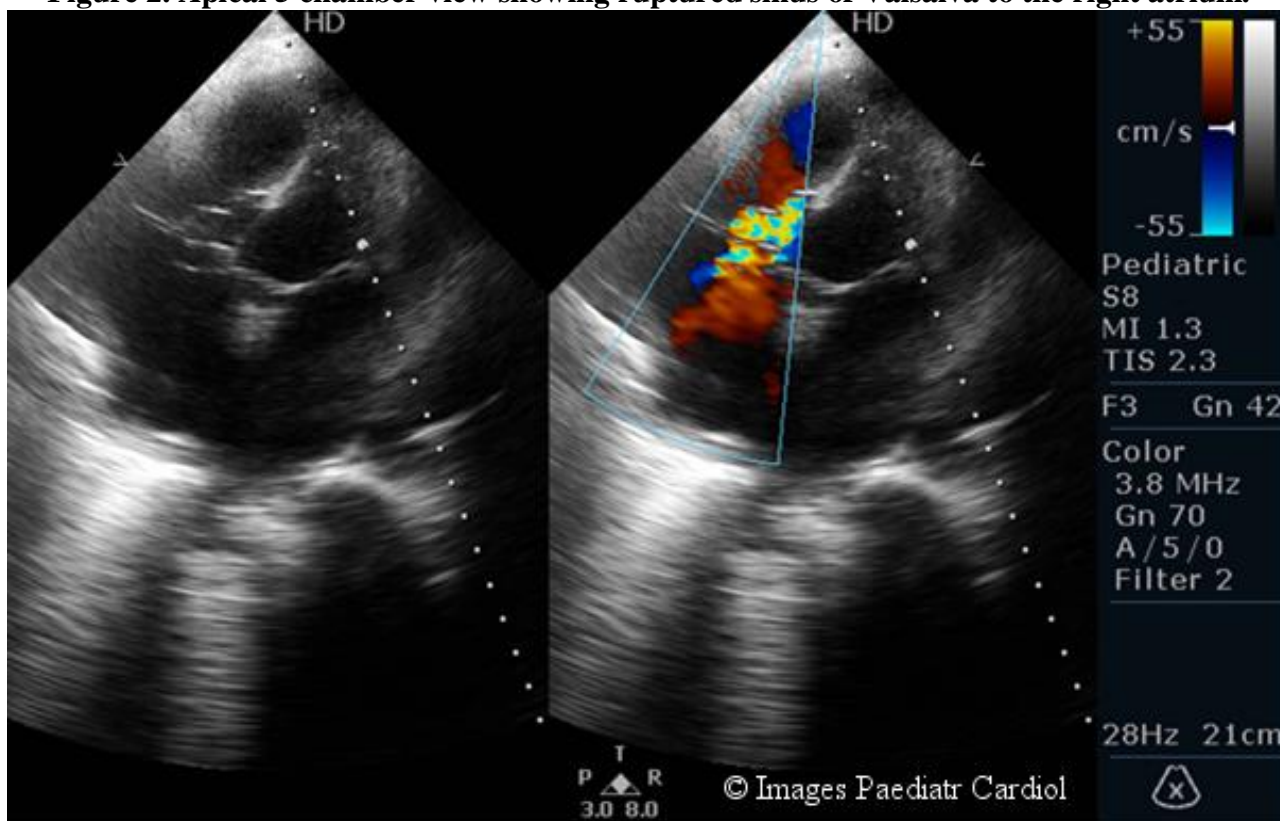
An 11 year old asymptomatic male was screened for a 4/6 continuous murmur with maximum intensity in systole at the lower left sternal edge. On examination, heart rate was 82/min, respiratory rate was 22/min, blood pressure as 104/66 mmHg, Oxygen saturation was 96% in room air. Other systems examination were normal.

Echo showed a right coronary cusp aneurysm rupture into the right atrium and child had device closure of the defect.

**Figure 1: Parasternal Short-axis view showing aneurysmal sac of right sinus of Valsalva to the right atrium.**



**Figure 2. Apical 5 chamber view showing ruptured sinus of Valsalva to the right atrium.**



## Discussion

Aneurysms of the sinus of Valsalva account for only 1% of congenital cardiac anomalies. The right sinus of Valsalva is most commonly involved and usually ruptures into right heart chambers, and only uncommonly into left heart chambers, pulmonary artery, interventricular septum or the pericardial cavity.<sup>6</sup> Rupture into the left ventricle (LV) is very rare.<sup>7</sup>

RSOV is commonly associated with other congenital defects.<sup>3</sup> Diwedi, *et al.* reported a similar case of a 6-year-old child with left sinus of Valsalva aneurysm opening into the right atrium,<sup>8</sup> while Dattilo, *et al.* reported a RSOV in a 11-year-old Italian child with a ventricular septal defect and a pericardial effusion.<sup>9</sup>

Echocardiography is usually diagnostic if the echo windows are favourable.<sup>10</sup>

## References

1. Fazio G, Zito R, Dioco DD, Mussagy C, Loredana S, Damasceno A, *et al.* Rupture of a left sinus of Valsalva aneurysm into the pulmonary artery. *Eur J Echocardiogr.* 2006;7:230–2.
2. Mayer ED, Ruffmann K, Saggau W, Butzmann B, Bernhard-Mayer K, Schatton N, Schmitz W. Ruptured aneurysms of the sinus of Valsalva. *Ann Thorac Surg* 1986;42:81-85.
3. Kirklin JW, Barratt-Boyes BG. Congenital aneurysm of the sinus of Valsalva. *Cardiac surgery*, 2nd ed. Churchill-Livingstone, 1993:825-40.
4. Chu SH, Hung CR, How SS, Chang H, Wang SS, Tsai CH, *et al.* Ruptured aneurysms of the sinus of Valsalva in Oriental patients. *J Thorac Cardiovasc Surg* 1990;99:288-98.
5. Shah RP, Ding ZP, Ng AS, Quek SS. A Ten-Year Review of Ruptured Sinus of Valsalva: Clinico-Pathological and Echo-Doppler Features. *Singapore Med J.* 2001;42:473-6.

Abqari S, Rabbani MU, Meshram HS, Gupta A. An asymptomatic 11 year child with ruptured sinus of Valsalva. *Images Paediatr Cardiol* 2015;17(2):3-5.

6. Park SH, Jung HS, Mina YU, Min SK, Ahn JH, Kim Y. Left Valsalva sinus aneurysm rupture into left atrium and aortic valve prolapse confirmed with transesophageal Echocardiography. *J Am Soc Echocardiogr* 2007;20:1010.e3-e6. 4.
7. Kucukoglu S, Ural E, Mutlu H, Ural D, Sonmez B, Uner S. Ruptured aneurysm of the sinus of Valsalva into the left ventricle; a case report and review of literature. *J Am Soc Echocardiogr* 1997; 10: 862-865.
8. Dwivedi SK, Saran RK, Sethi R. Ruptured left sinus of Valsalva aneurysm to right atrium. *Indian Heart J.* 2005;57:73-5.
9. Datillo G, Tulino D, Tulino V, Lamari A, Marte F, Patanè S. The chance finding of an aneurysm of the right sinus of Valsalva in an 11-year-old child with a ventricular septal defect and a pericardial effusion. *International Journal of Cardiology.* 2011;151:e77-e9
10. Dev V, Goswami KC, Shrivastava S, Bahl VK, Saxena A. Echocardiographic diagnosis of aneurysm of the sinus of Valsalva. *Am Heart J.* 1993;126:930-6.

### Contact Information

Shaad Abqari  
Department of Pediatrics and Centre of Cardiology  
JNMCH, Aligarh Muslim University  
Aligarh 202002 U.P.  
India.  
[shaadabqari@yahoo.com](mailto:shaadabqari@yahoo.com)

© Images in  
Paediatric Cardiology  
(1999-2015)

