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Case Report

An unusual cause for unruptured sinus of valsalva aneurysm



Ponnusamy Shunmuga Sundaram^{a,*}, Gadage Siddharth Narayan^b,
Mukund A. Prabhu^c, Sasidharan Bijulal^d, G. Sanjay^d,
K.K. Narayanan Namboodiri^e, T.R. Kapilamoorthy^f,
Jaganmohan A. Tharakan^g

^a Post Doctoral Fellow, Department of Cardiology, Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), Thiruvananthapuram, Kerala 695011, India

^b Fellow in Pediatric Cardiology, Department of Cardiology, Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), Thiruvananthapuram, Kerala 695011, India

^c Senior Resident, Department of Cardiology, Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), Thiruvananthapuram, Kerala 695011, India

^d Assistant Professor, Department of Cardiology, Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), Thiruvananthapuram, Kerala 695011, India

^e Associate Professor, Department of Cardiology, Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), Thiruvananthapuram, Kerala 695011, India

^f Professor and Head, Department of Imaging Sciences and Intervention Radiology, Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), Thiruvananthapuram, Kerala 695011, India

^g Professor and Head of the Department, Department of Cardiology, Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), Thiruvananthapuram, Kerala 695011, India

ARTICLE INFO

Article history:

Received 8 October 2012

Accepted 20 June 2013

Available online 25 July 2013

Keywords:

Sinus of valsalva

Inflammatory aortitis

Aneurysm

ABSTRACT

Sinus of valsalva aneurysm is considered to be one of the rarest complications of inflammatory aortitis. Herewith, we are reporting a young male patient who presented to us with severe aortic regurgitation. On evaluation, he was found to have unruptured sinus of valsalva aneurysm. CT angiography and magnetic resonance imaging have shown value in the diagnosis of sinus of valsalva aneurysm.

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A 20-year-old male patient presented with complaints of breathlessness and palpitation of 3 months duration. Echocardiography showed severe aortic regurgitation and

unruptured sinus of valsalva aneurysm (Figs. 1–3). Mantoux test showed an induration of 19 mm. His ESR was 105mm in first hour and CRP was 96.4 mg/L. Multiple blood cultures were

* Corresponding author. Tel.: +91 9846412846 (mobile).

E-mail addresses: shunmuga_pg@yahoo.co.in, shunmuga@sctimst.ac.in (P.S. Sundaram), siddharthng@gmail.com (G.S. Narayan), map81@sctimst.ac.in (M.A. Prabhu), bijulal@sctimst.ac.in (S. Bijulal), sanjay@sctimst.ac.in (G. Sanjay), kknnamboodiri@sctimst.ac.in (K.K.N. Namboodiri), kapil@sctimst.ac.in (T.R. Kapilamoorthy), jmt@sctimst.ac.in (J.A. Tharakan).

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<http://dx.doi.org/10.1016/j.ihj.2013.06.021>

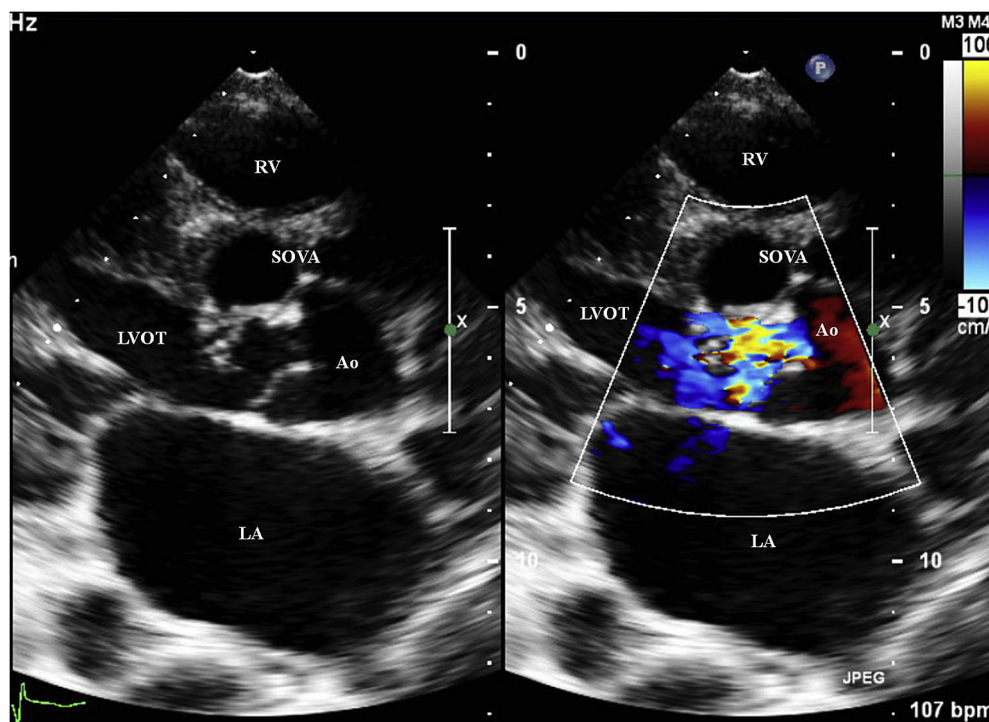


Fig. 1 – Transthoracic echocardiography unruptured sinus of valsalva aneurysm and aortic regurgitation. LA – left atrium, LVOT – left ventricular outflow tract, RV – right ventricle, Ao – aorta, SOVA – sinus of valsalva aneurysm.

negative. Sputum sample was negative for tubercle bacilli. CT angiography confirmed the diagnosis of inflammatory aortitis (Figs. 4–7). Sinus of valsalva showed unruptured aneurysm of left sinus of size 46 × 25 mm and mild dilatation of right sinus (23 × 25 mm). Both coronary arteries were arising above the

aneurysm. Patient also had partially thrombosed juxta renal aortic aneurysm (50 × 26 mm) and partially thrombosed pseudoaneurysm of splenic artery (27 × 19 mm). Right renal artery showed tight stenosis. He was started on steroid along with anti-tubercular medication and advised urgent surgery.

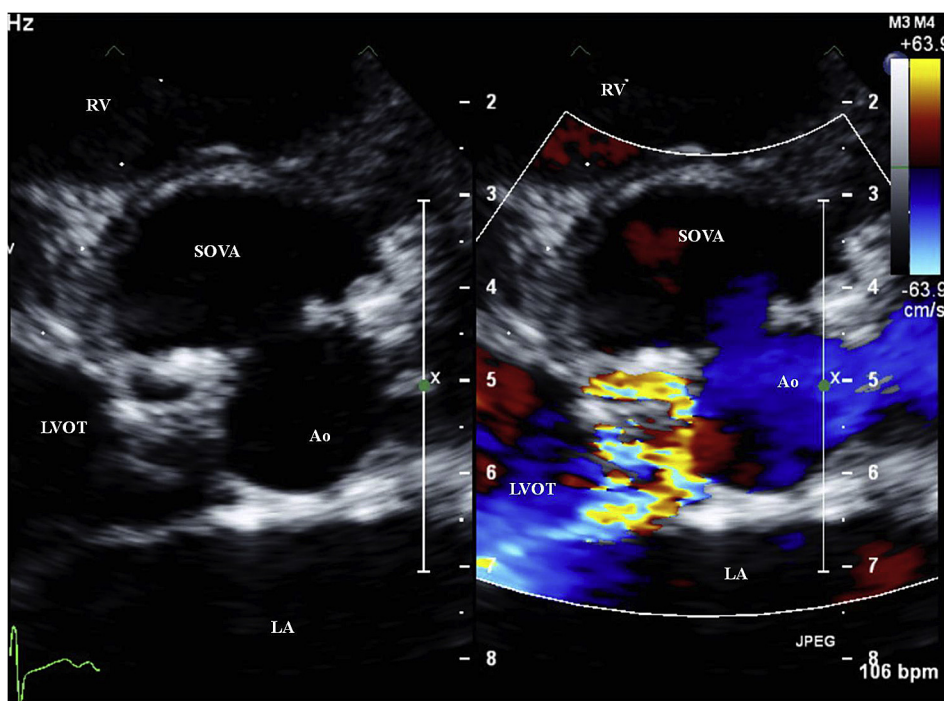


Fig. 2 – Transthoracic echocardiography in parasternal short axis view showing the site of communication of aneurysm with the aortic sinus. LA – Left atrium, LVOT – Left ventricular outflow tract, RV – Right ventricle, Ao – Aorta, SOVA – Sinus of valsalva aneurysm.

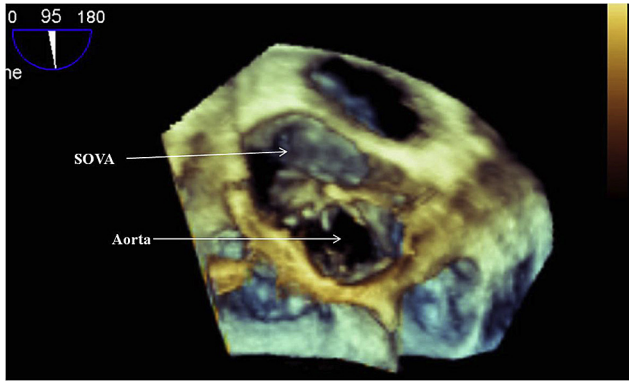


Fig. 3 – Transesophageal 3D echocardiography showing the unruptured sinus of valsalva aneurysm (SOVA) and aorta (Ao).

Sinus of valsalva aneurysm is considered to be one of the rarest complications of inflammatory aortitis.¹ Sinus of valsalva aneurysm may occur in the right (75–90%), followed by noncoronary sinus (10–25%), with the remainder occurring in the left coronary sinus.² Left aortic sinus aneurysms are, in fact, felt by some investigators to be most often acquired.³ Jones and Langley established criteria for differentiating acquired from congenital aneurysms.⁴ Acquired aneurysms most often tend to extend superiorly, rarely associated with congenital cardiac defects, and are usually associated with acquired diseases such as syphilis or bacterial endocarditis. Echocardiography, CT angiography and magnetic resonance imaging have shown value in the diagnosis of sinus of valsalva aneurysm. Several cases of left coronary artery territory ischemia due to extrinsic compression were reported due to unruptured aneurysm.¹

Takayasu arteritis is a chronic vasculitis that predominantly affects the aorta and its main branches in young women from Asia, especially Japan. Acute progression can cause destruction of the media of the arterial wall and leads to the formation of aneurysm and rupture of the involved arteries. Aortic root usually shows diffuse dilation and affects all

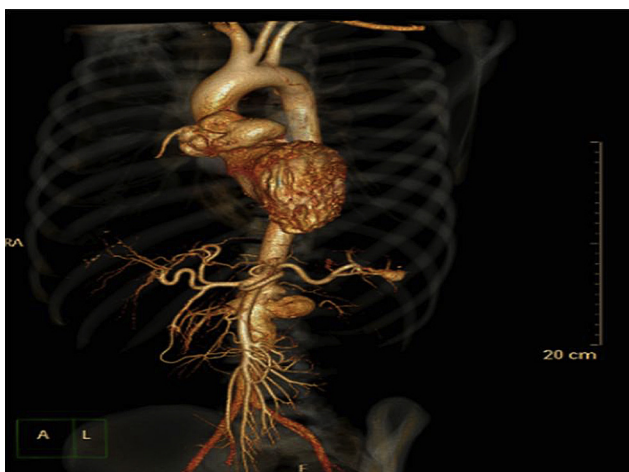


Fig. 4 – 3D reconstructed CT angiography image of aorta and its branches. Note the dilatation of abdominal aorta at the level of renal artery.

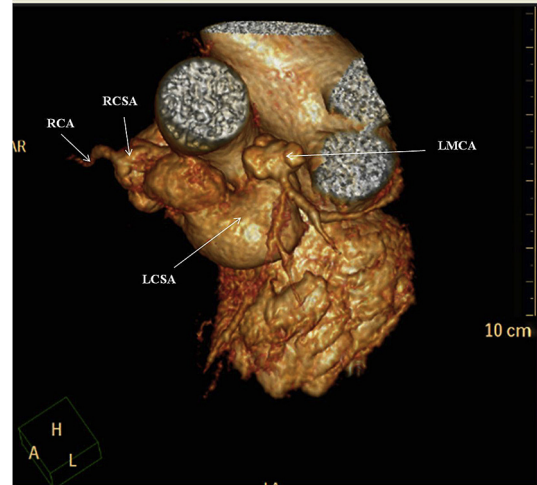


Fig. 5 – 3D reconstructed CT angiography image of aorta. Both Left coronary artery and right coronary artery are arising from above the aneurysm. Note the dilatation of left main coronary artery (LMCA). RCSA – right coronary sinus aneurysm, LCSA – Left coronary sinus aneurysm, RCA – right coronary artery.

sinuses of valsalva equally,⁵ and aneurysms localized to a single sinus of valsalva are rarely observed.

It is mandatory to monitor the patient’s clinical course carefully for the development of complications. It is also



Fig. 6 – 3D reconstructed image of entire aorta and its branches. Splenic artery and juxta renal aortic aneurysms are clearly seen. Spl An – Splenic artery pseudoaneurysm, JRAAA – Juxta renal abdominal aortic aneurysm, LCSA – Left coronary sinus aneurysm.

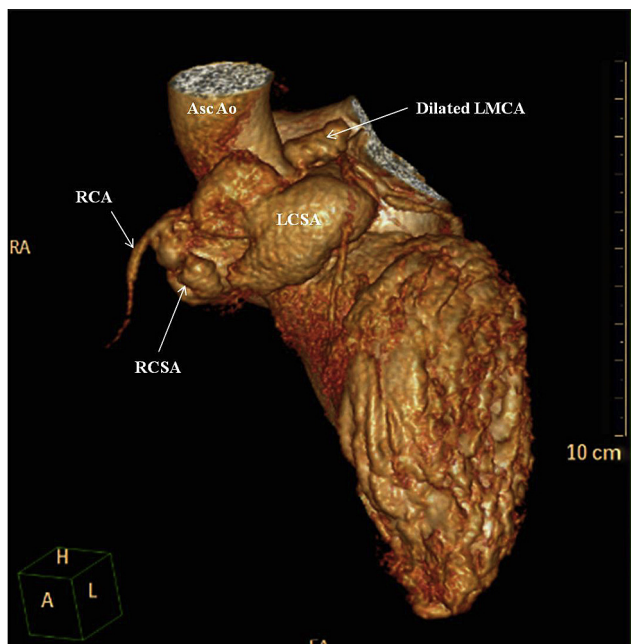


Fig. 7 – 3D reconstructed image of aortic root. Note the dilated Left main coronary artery (LMCA) seen arising from above the left sinus of valsalva aneurysm. RCSA – right coronary sinus aneurysm, LCSA – Left coronary sinus aneurysm, RCA – right coronary artery.

important to control inflammation, because steroid therapy for suppressing inflammation is crucial for ensuring a better long-term outcome.

Source(s) of support

Nil.

Presentation at a meeting

Nil.

Conflicts of interest

All authors have none to declare.

Acknowledgment

Nil.

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