

Rupture of the sinus of Valsalva in pregnancy

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A case is described in which rupture of the sinus of Valsalva occurred at 34 weeks' gestation . After diagnosis , the ruptured sinus was successfully repaired 3 days after delivery.

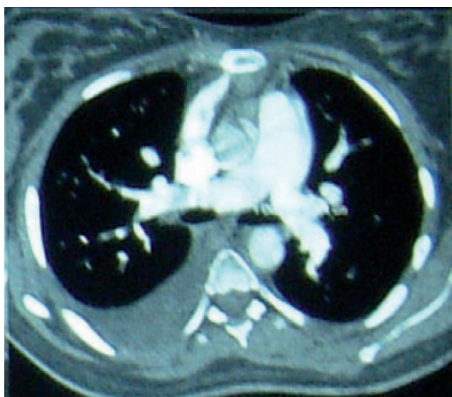
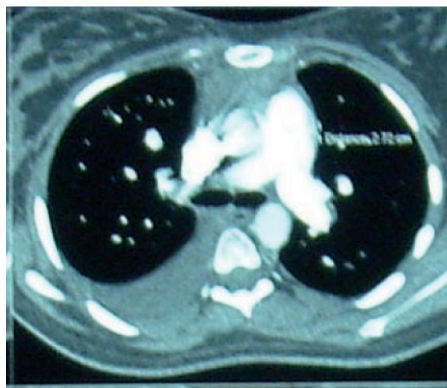
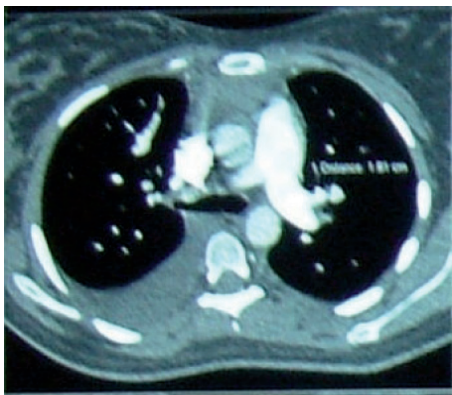
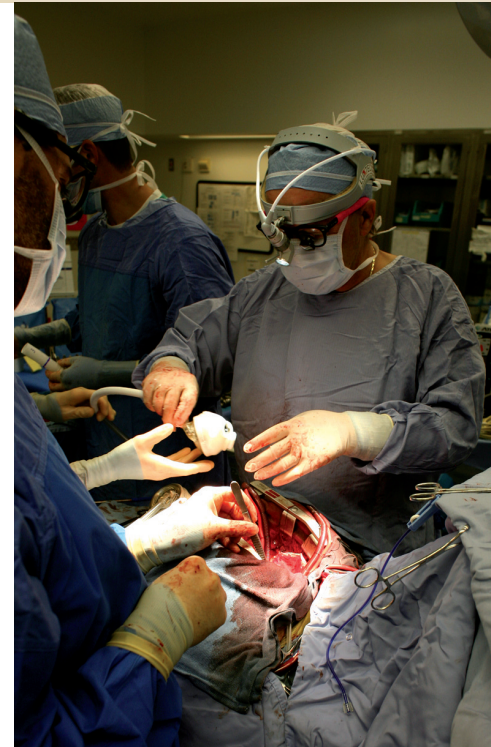
A case report

A 20y old , woman in week 34 of her first pregnancy attended her local hospital because of chest pain and dyspnea , and in her echocardiography VSD was reported . But , because of begining her labor pain and uterin contraction her infant was born through vaginal delivery.

In 3rd day after delivery she came to Rajaee Hospital because of increase in heart rate, and tachypnea. Subsequently a dry cough, dyspnea and orthopnea had developed. Examination showed tachycardia with 120 beats / min .Blood pressure was 120 / 60 and on auscultation a continuous mid systolic murmur was heard at the left sternal border.The CXR showed increased vascular marking and ECG was normal.

In view of the possibility of pulmonary emboli, it was felt that CT.angiographic confirmation of the diagnosis should be obtained. There is no sign of PTE inCT. angiography. (fig 1)

Figure 1



Secondary trans thoracic echocardiography showed aneurysm of valsalva sinus with ruptured in to the right atrium about 6mm diameter. and also bicuspid aortic valve was reported. (fig 2)

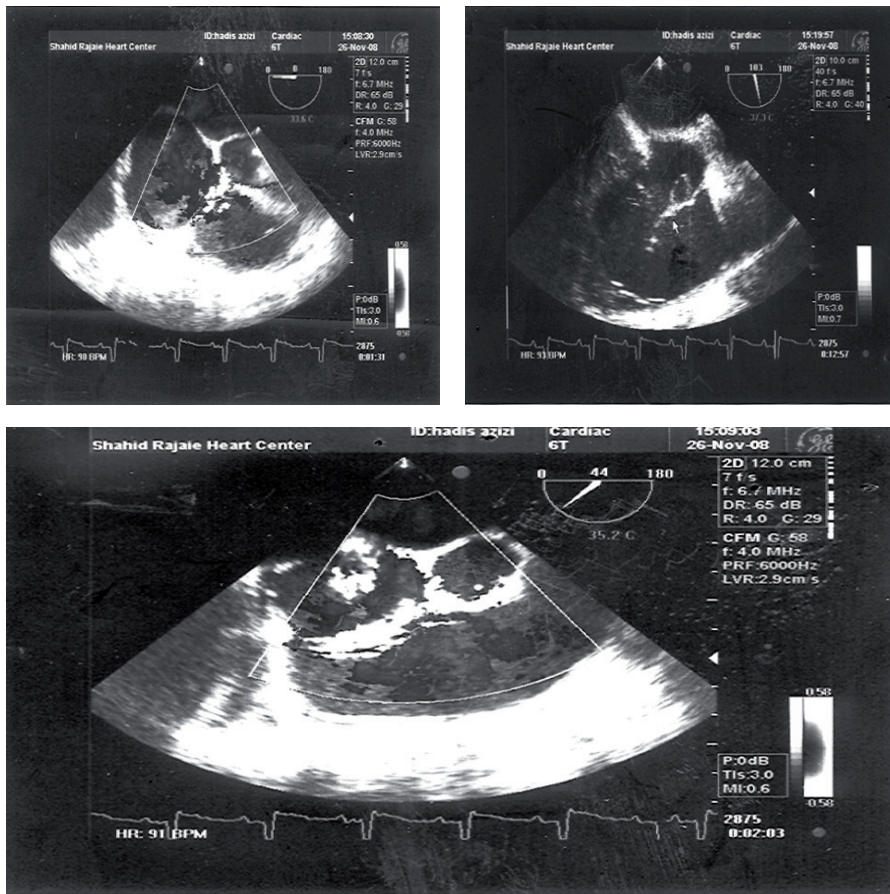


Figure 2

Diagnosis:

- 'Limited bedside TFB & TEE were done due to respiratory distress 5PGst partim phase admitted with sxiereme dyspjsea
- Bicuspid aortic vslvs with medial-lateral firkstataiii of leailgt^Anfmsysmal sinus csf valsalva(rs!ated to right easp) with rupture of the sini*- \w> RA'acrcer sire <-••&-7ffim)aad resuhaat eontituous flow from Aorta to RA ia
- CH aad dop^ler study
- MM IV enlargement with preserved systolic fandi0a(LVEF^o-55%)
- LV RWMA in favor of RV vohime overload
- Moderate to severe RV etiUrgement with severe dysfunction
- NoKVH
- RA enlargenientJlektivly increased size of main PA and pryxsniat brandies
- No obvious mass in RY,PA and p-fx.iTm-; bn;ndiL>.No obvioii* VSD in 2B mA CF1) study hit sms!! VSDs soaidn't be ruled out
- Mild MR
- No AR, No evideeee in favor sf coareation
- Moderate fencntional TR^ecarate estimation of PAP was impossible

Considering the above assessment, patient was operated. After sternotomy and transverse aortotomy a 8mm ruptured aneurysm of valsalva sinus was detected and repaired with two layered Dacron - Pericardial Patch. The other side of fistula was repaired through right atriotomy.¹(fig 3)

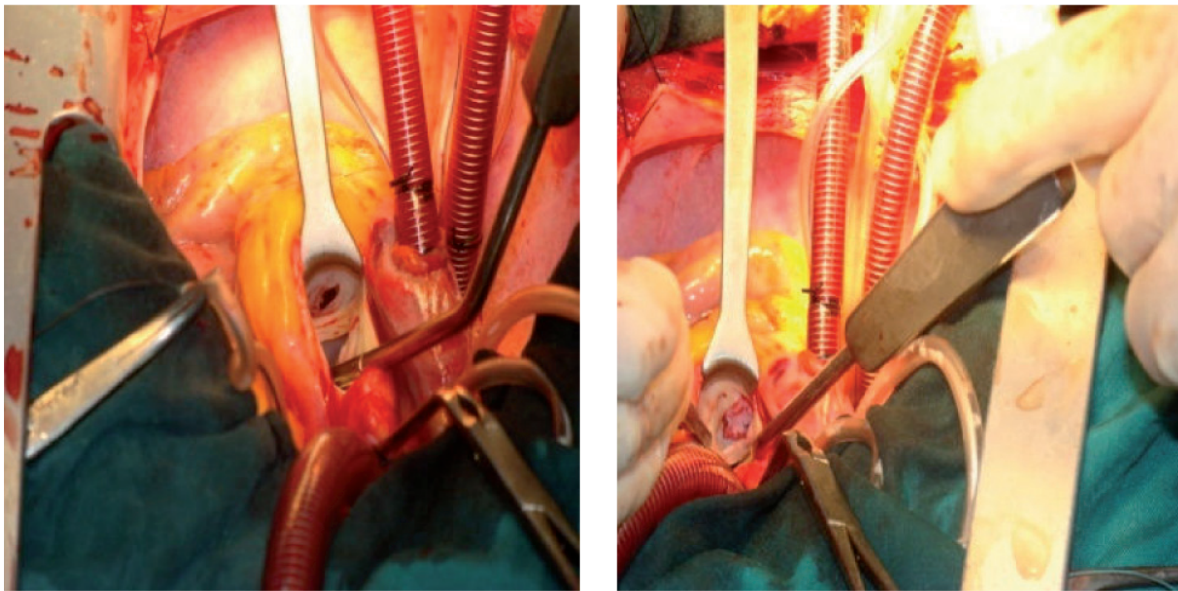


Figure 3

After one week patient discharge with good general condition.

Discussion:

Sinus of valsalva aneurysm make up less than 1% of all congenital cardiac anomalies according to some reports and there are few documented case of ruptured sinus of valsalva aneurysm in a pregnant patient, so we reported this case.

Most cases of aneurysm of sinus of valsalva are thought to be congenital, probably resulting from a lack of continuity between the aortic media and annulus fibrosis.

They may be an associated ventricular septal defect, coarctation of the aorta, or a bicuspid aortic valve. Other cases result from an inherited connective tissue abnormality, as in Marfan's syndrome or Ehlers – Danlos syndrome; from inflammatory disease, as in endocarditis, syphilitic or granulomatous aortitis, or Behçet's disease; and from mechanical disruption after stab wounds, aortic valve dissection, or after aortic valve replacement or ventricular septal defect repair.

A congenital aneurysm may persist into middle age, when it may cause right ventricular out flow obstruction into any of the four cardiac chambers, the pulmonary arteries, pericardium, or adjacent extra vascular spaces. Echocardiography may allow the detection of the aneurysm before the onset of symptoms.

Perhaps in this case, ruptured was precipitated by the

hyperdynamic state of late pregnancy coupled with hormonally induced change in mechanical properties of connective tissue.^{2,3}

The risks of allowing vaginal delivery in this condition are unknown, but it was thought that hemodynamic changes occurring during labor would exacerbate the left to right shunt and perhaps extend the aneurysmal tear.⁴

In this case labor pain had begun before diagnosis the rupture of valsalva sinus, So she had vaginal delivery. But if this problem detected during pregnancy the decision depend on gestational age and hemodynamic consequence of mother.

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