

## **Cardiology Images**

# POST TOTAL CORRECTION COMPLICATION

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twenty years old boy, A known case of Tetralogy of Fallots (TOF) had total correction for his condition at the age of twelve now presented with history of palpitation and progressive shortness of breath. No history of syncope or weakness. On examination his pulse was 84/min high volume ,his blood pressure was 110/70 mmHg and he had slight pallor, rest of his general physical examination was normal. His systemic examination of precordium showed normal intensity of first and second heart sound there was a right sided third heart sound and early diastolic murmur in left basal area. His ECG showed normal sinus rhythm with sinus tachycardia. Trans Thoracic Echo showed dilated right sided chambers and free pulmonary regurgitation (PR). There was aneurysmal dilatation of Right Ventricular Out flow Tract (RVOT)

Above are shown four different sixty four slice

## A.MDCT Image in systole (30%)



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# B. MDCT image in Diastole (70%)



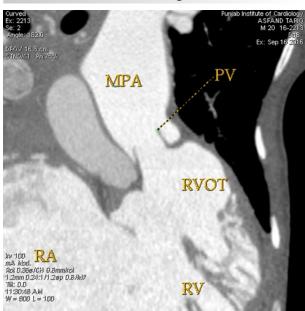
C. Volume rendering (VR)MDCT image



Multi Detector Computerized Tomography (MDCT) contrast enhanced images of this patient. The Image A is coronal plane contrast enhanced systolic



## D. MDCT MPR curved image



view of the right heart in 30 % phase of cardiac cycle showing closed position of Tricuspid Valve (TV)[thin arrow] and open position of Pulmonary

Valve (thick arrow) (PV). There is dilatation of RVOT below the PV. The image B is diastolic phase of contrast-enhanced right heart showing open position of PV signifying incompetence of PV and open position of TV, which is normal for the diastolic phase. The image C is a volume-rendering (VR) image of right heart showing right atrium right ventricle, RVOT, PV and main pulmonary artery. The chambers of right heart are dilated and there is out pocketing of RVOT showing a known complication of RVOT in post total correction of TOF. The image D is Multi Planner Reformation (MPR) curved image showing the right cardiac chambers and open position of PV.

Pulmonary valve regurgitation (PR) has been a recognized complication of Post TOF repair .PR may be well tolerated for several years but, depending on its severity, it results in a progressive RV dilation and dysfunction. Long-standing chronic RV volume overloads causes dilation of the tricuspid annulus that results in some degrees of tricuspid regurgitation. RV dilation and tricuspid regurgitation are important risk factors for the development of arrhythmias and possibly sudden cardiac death.

#### REFERENCES

1. Gatzoulis MA, Balaji S, Webber SA, Siu SC, Hokanson JS, Poile C, et al. Risk factors for arrhythmia and sudden cardiac

death late after repair of tetralogy of Fallot: a multicentre study. Lancet (2000) 356:975–81.