

Images In Cardiology

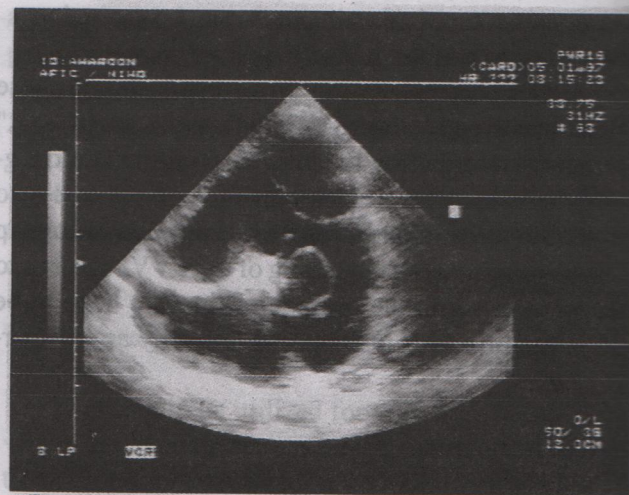
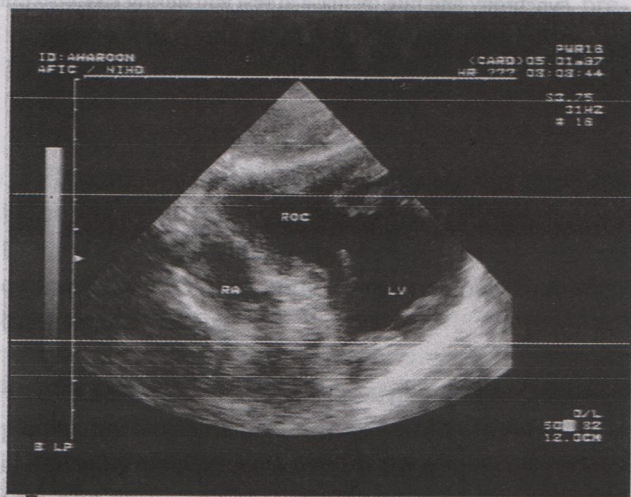
A Case Of A Mega Atrial Septal Aneurysm In A Case Of Tricuspid Atresia

WAQAR AHMED

M.B.Y. BILAL

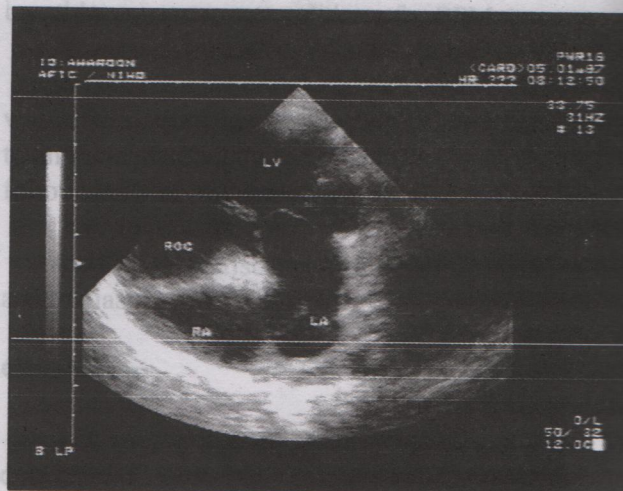
ASHUR KHAN

A five-year old boy was brought for evaluation of blue discoloration of lips and nails since birth. On examination he had central cyanosis and grade 2 clubbing. The apex was shifted outwards and downwards and had LV predominance. On auscultation, there was a single component first heart sound, a loud second heart sound, an ejection systolic murmur 3/6 in inten-



In Tricuspid atresia the blood passes from the RA to the LA through a septal defect at the Fossa Ovalis level, although primum defects and sinus venosus defects have been known. Rarely the atrial septum is intact. In this unusual situation, a coronary sinus to left atrial fenestration or window provides access to the left side of the heart. The inter atrial septum may be restrictive and an aneurysm of the atrial septum may re-

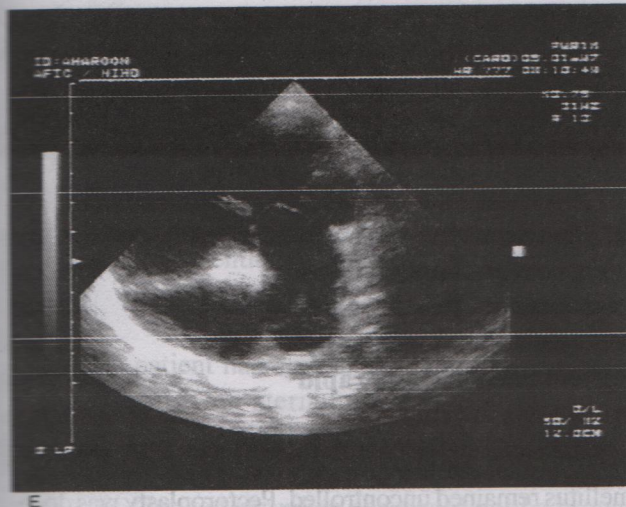
sity. A Transthoracic colour doppler 2D Echocardiogram was done which showed situs solitus, absent Rt AV connection, a small Rt outlet chamber (picture a), discordant VA connections, and a subvalver and valver Pulmonary stenosis having a peak instantaneous gradient of 70 mm Hg. In addition, a huge aneurysm of the atrial septum (pictures b, c), arising from 2 cm of the atrial septum at Foramen Ovale level was seen. It was so big that it swung across freely from the left atrium into the LV inlet through the open mitral valve during ventricular diastole (pictures d, e) and back into the LA in systole. Right to left shunting across this aneurysm could be seen on colour. A diagnosis of Tricuspid Atresia with discordant VA connections and PS, with aneurysm of the atrial septum was made.



25-Sep-97 15:04+

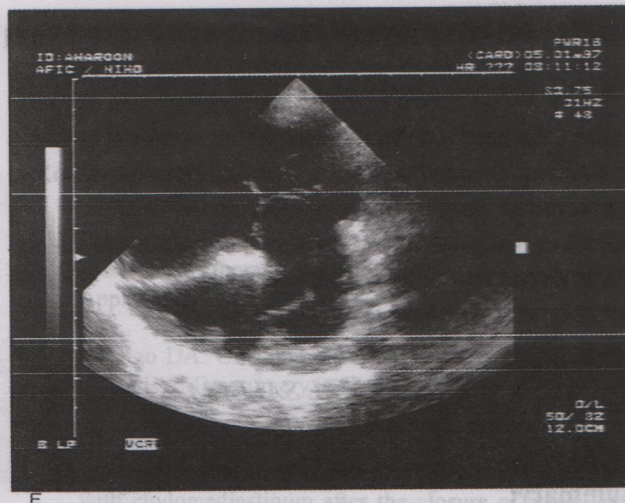
sult⁴. This aneurysm may achieve spectacular proportions⁵.

Atrial septal aneurysms are areas of thinning in the fossa ovalis region of the atrial septum that may bulge into the atrial chambers or move excessively during cardiac cycle². Atrial septal aneurysms are not common: 0.2% among 60,156 patients studied in four large studies². Subcostal views are helpful in diagnosing



atrial septal aneurysms¹. The TEE is superior to TTE for identifying atrial septal aneurysms². Criteria proposed by Henley et al include an aneurysm involving at least 1.5 cm of the atrial septum and extending 1.5 cm into either atrial chamber from the plane of the atrial septum, or an aneurysm with a 1.5cm excursion in total during the cardiorespiratory cycle². Classification based on the position and motion of the atrial septal aneurysms are type 1 and type 2. Type 2 is the presence of the ASA exclusively in the LA whereas type 1 ASA which bulges into RA is Type 1a, that which predominantly bulges into RA but has a phasic oscillation into the left atrium during the cardiorespiratory cycle is type 1b, and type 1c are those ASAs which oscillate between the right and left atrial chambers with each cardiac cycle².

The atrial septal aneurysms have been implicated



in pathogenesis of cerebral ischaemic episodes, i.e., TIAs or cardiogenic systemic emboli. There appears to be an association between ASAs and cardiogenic emboli². It has been postulated that ASAs provide a nidus for thrombus formation and blood stasis and therefore a risk factor for cerebral embolization³. Demonstration is particularly important in young patients with unexplained peripheral embolism or strokes¹.

REFERENCES:

1. Ryan T. Congenital Heart Disease 350-433; Harvey Fiegenbaum Echocardiography fifth edition: Lea and Febiger 1994.
2. Alan Camp Arthur j Labovitz: Evaluation of cardiac sources of emboli 51-67. Clinical Transoesophageal Echocardiography, Howard C Dittrich 1992.
3. Arthur j Labovitz, Anthony C Pearson 106-116; Transoesophageal Echocardiography Basic principles and clinical application. 1993 Lea and Febiger.
4. R.M. Freedom, L. N. Benson Tricuspid Atresia 270-284 Neonatal Heart Disease Robert Freedom, Leland Benson, Jeffery Smallhorn. 1992.
5. Freedom RM, Rowe RD (1976) Aneurysm of the atrial septum in Tricuspid Atresia. Am J Cardiology 38:265-267.