Infective Endocarditis Presenting As Pneumothorax

*KHAN SHAH ZAMAN**
*ZIA PANWAR***

SUMMARY:

This is a case report of right sided infective endocarditis presenting as pneumothorax in a heroin addict, who subsequently made complete recovery after receiving standard treatment for infective endocarditis.

Case Report

Twenty years old male student was referred from Larkana in Jan. 93. He presented with H/O low grade intermittent fever for four weeks and sudden onset right sided chest pain followed by shortness of breath for one week. Appetite was poor and he had lost some weight.

Fever was accompanied by chills, chest pain was localized to right side of chest and gravated by coughing and inspiration, their was no history of haemoptysis, haemetemesis, haematuria etc.

Past history was not significant. Their was no family history of tuberculosis, ischaemic heart disease and diabetes mellitus.

He was smoker for six years and heroin addict for the last one year and injected heroin several times during this period.

He had received several courses of antibiotics from different doctors.

On examination he looked pale, temperature was 100.f and pulse was 105/min, no splinter hemorrhages were noticed J.V.P. was not raised and no pre sacral oedema was noticed. Apex was shifted to the left seventh intercostal space anterior auxillary line it was hyperdynamic in character and systolic thrill was present in left parasternal region. 1st heart sound was normal in character and pansystolic murmur of grade 5/6 was audible all over the precordium with maximum intensity in left second intercostal space. Breath sounds were normal on left side but were absent in right mid and lower zones. Abdominal and neurological examination were unremarkable.

Provisional diagnosis of *Ventricular Septal defect with L to R shunt and Pulmonary Stenosis,* was made and man was investigated for *Infective Endocarditis.*

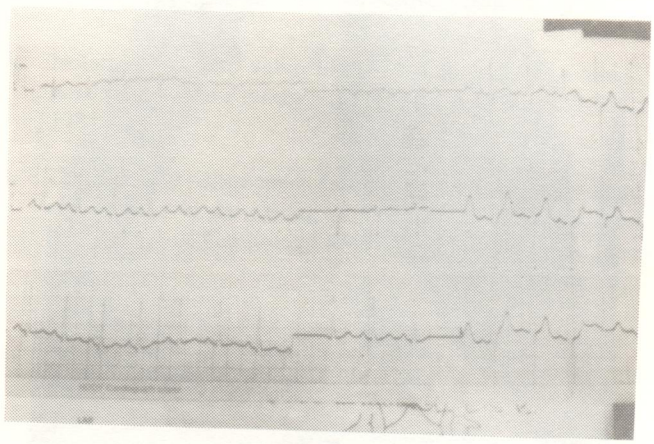

Fig. 1

EC6 showed Sinks' Rhythm right axim deviation E R.V.M.

Investigations

Hb.8.8gms normocytic normochromic.

W.B.C. count 23,300 with Polys 87% and Lymphos 13%.

E.S.R. 140mms/Ist hour.

* M.B.B.S., M.R.C.P. (U.K.) Asstt. Prof. Cardiology. N.I.C.V.D. Karachi.
** Registrar South Ward. N.I.C.V.D. Karachi.

Urine microscopy revealed microscopic haematuria and proteinuria.

Three sets of aerobic and anaerobic blood cultures remained sterile and no organisms were grown from urine culture and throat swab.

Resting ECG was in sinus rhythm with tall P waves and right axis deviation and right ventricular hypertrophy. Fig. 1.

CXR. showed cardiomegaly with features suggestive of right atrial and right ventricular hypertrophy and small pulmonary artery shadow and large right sided pneumothorax was also noticed. Fig 2.

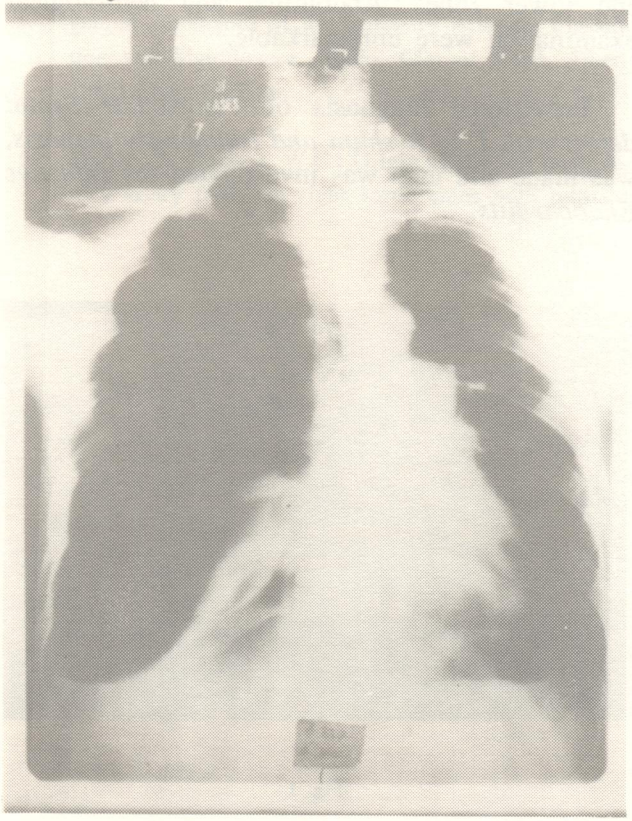

Fig 2.

CXR P.A. View Right Sided Pneumothorax

Echo/Doppler studies: revealed small perimembranous type V.S.D. with left to right shunt and valvular pulmonary artery stenosis with post stenotic dilatation. Multiple free vegetations were seen in RV outflow tract pulmonary artery and over pulmonic valve. Fig 3. and 4.

Treatment

As no organism were grown therefore patient was started on Benzylpenicillin and Gentamycin in standard six hourly and eight hourly doses respectively. As he responded to this therapy therefore it was continued and his temperature settled within two weeks and therapy was continued for total duration of six weeks. Subsequently his haemoglobin improved to 10.5gms and WBC count became normal and ESR came down to 35mms/1st hr. However chest tube under water seal was passed on the right side of the chest and pneumothorax resolve subsequently.

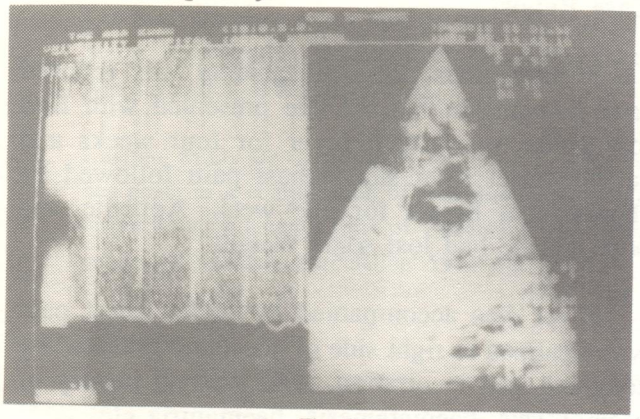

Fig. 3

2-D echo O Continuous Wave Doppler, Shortaxis View demonstrating V.S.D. C Left to Right Shunt and multiple free echoes in R.V. outflow tract

Discussion

Infective endocarditis in patients with V.S.D. and Pulmonary Stenosis is not uncommon, it is small defect with high peak systolic pressure gradient where infective endocarditis is more likely to occur. Site of vegetation is the RV out flow tract and the pulmonary valve.

Right sided infective endocarditis is increasingly seen in I/V drug abusers, risk with cocaine is lower than with heroin or amphetamine. Underlying cardiac lesion is described in around 20% of the cases.

In one large series of 80 drug addicts dying of infective endocarditis the site of involvement as described in detailed autopsy report, the 1st episode of infective endocarditis involved single right sided cardiac valve in 30%, both right and left

sided valve in 16%, a single left sided valve in 41% and both left sided valves in 13%. Tricuspid valve was involved in 44% and pulmonic valve in 3% of cases of right sided infective endocarditis.

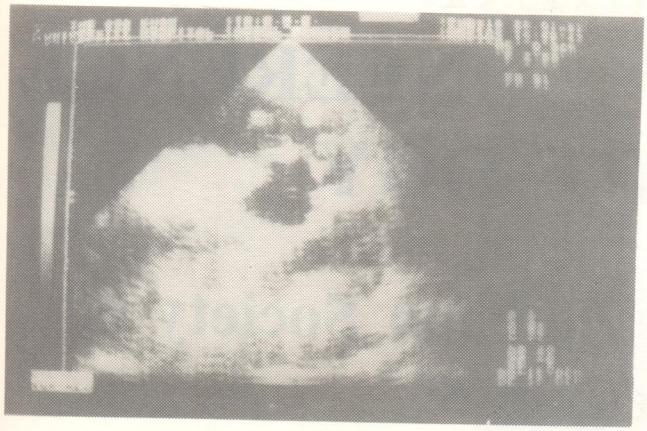

Fig. 4

R.V. Outflow Track & Palmonary Artery in Left Parasteral Short axis View. Multiple Free Vegetations are Present.

Skin is the most frequent source of micro-organisms responsible for endocarditis in drug abusers. Staph. aureus is isolated in 60% of cases, various species of streptococci and enterococci from almost 20%, gram negative bacilli from 10% and fungi from 5%.

In our patient besides the H/O heroin abuse, two congenital lesions were also present, they further increased the risk of infective endocarditis, more over presentation with pneumothorax is rather unusual. Although septic emboli causing infarction and pneumonia have been described as the complication of right sided infective endocarditis but the large pneumothorax is rare presentation and as such there was no other explanation for this complication but to except that possibly he had staph. aureus endocarditis and secondary staph. aureus pneumonia ws responsible for this complication. Unfortunately we could not detect any organism on blood cultures as he received several short courses of different antibiotics prior to his transfer to our center.

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