

## Case Report:

# Infective Endocarditis of Pulmonary valve and arterial wall

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## Presentation:

21 years old married girl presented with shortness of breath for last 2-3 years slightly and more increased in intensity for last 5-6 months, more marked on lying position; fever, chills, rigor and sweating present mostly at night time for last 2-3 months; chest pain which was located at the center of the chest and radiating to the back.

## Clinical examination

General Examination: she was febrile having temperature of 100°F, pulse 98bpm with normal volume and usual type, BP 90/60 mm Hg, JVP not raised. Chest: vesicular breath sound bilaterally, Some basilar medium crepts, CVS. Systolic thrill on upper precordium(pulmonary area and with systolic murmur early diastolic murmur on Erb,s area. P/A: Hepatosplenomegaly (2 fingers liver and 3 fingers spleen felt below costal margin.)

## Investigation

**Blood:** Hb 10.5gm%, ESR 30mm/1<sup>st</sup> hour, WBC 5600/Cmm, DC- N 47%, L52%, M 1%,

**Blood culture:** Among three samples from different sites taken at different times only one showed growth of Staphylococcus epidemides.

**CXR:** Cardiomegaly, lung fields clear.

**ECG:** Sinus rhythm with heart rate of 92bpm, T - in V2-6, RVH by voltage criteria,

**Echocardiography:** ASD secundum type, 1.3 cm wide, L to R shunt, Vegetation on the pulmonary valve (one) arterial wall(two). Mild pericardial effusion. Normal systolic and diastolic left ventricular function(LVEF 60%).

**Diagnosis:** Infective Endocarditis, multiple vegetations on pulmonary valve and arterial wall, ASD, NYHA class [II-III] Heart failure.

Treatment: Ceftriaxone 2gm IV daily along with gentamycin 60 mg twice daily which was continued for four weeks then followed by oral cefixime 200 mg twice daily for next two weeks at home.

**Course of treatment:** she recovered as all symptoms and signs were disappeared. Closure of her ASD was planned and awaited.

**Discussion:** Infective Endocarditis, very serious conditions, are commonly found on mitral and aortic valves. Pulmonary valve involvement is very rare (<1% of cases) in Infective Endocarditis, ASD, although can be taken as a risk factor for right sided valve infection, but is very low or negligible, Disease of the pulmonary valve is intermediate risk factor to develop further infection, whereas Mitral, Aortic valve disease, PDA, cyanolic CHD, Prosthetic valves, VSD, Coarctation of the Aorta are relatively high risk factors for endocarditis development, These conditions generally explain their natural location of vegetations on the left sided valves, where there is flow of the blood from higher pressure area to lower. Naturally explained locations of the vegetations are toward the downstream of the anatomic abnormalities(prerequisite disease). Rodbard had explained about venturi effects and turbulence or the flow from higher to lower pressure area, it means flow from constricted area, so that the vegetations get deposited immediately below the constricted area, or rough area ( endothelial roughage surface). Such area location can be explained as where, either regurgitant blood streaks or pressurized stenosed blood flow come to lower pressure area.

In our present case ASD has little role as this is taken as low risk factor, next location of vegetations on pulmonary valve as well as on arterial wall. One report of Echocardiography found to have higher pulmonary flow and possible PPH condition, should make us clear about possibility of underlying pulmonary valve disease which was undiagnosed properly, Her long standing shortness of breath can also be explained by preexisted pulmonary stenosis of atleast moderate degree. Her ASD enhanced her pulmonary pressure making increased shortness of breath over coming years, rough and diseased surface area already existed so developed endocarditis. Very rare occurrence but with

all apparent characteristic features, course of disease and management as a whole made it explained, Main responsibility of clinician comes to proper clinical judgement of the patient, not to ignore if there is no improvement by conventional treatment. Proper diagnosis and adequate treatment are crucial for reducing morbidity and mortality related to Endocarditis,

## **Conclusion**

Infective Endocarditis of pulmonary valve although rare is still prevalent in our Society. Early dignosis and proper treatment helps significant reduction in morbidity & mortality.