

Case Report

A 25-Year-Old Pregnant Lady with Heart Disease

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Abstract

Cardiac disease in pregnancy is an important cause of maternal morbidity and mortality. Rheumatic heart disease and congenital heart disease are the commonest cardiac problems in our country. Here we report a 25-year-old lady who presented with 36 weeks of pregnancy with severe mitral stenosis with grade II mitral regurgitation and pulmonary hypertension. With combined treatment of cardiologist and obstetrician the patient delivered a healthy baby without any complication. She was discharged on 7th postnatal day with satisfactory condition.

Key words: Heart disease; Pregnancy; Complications

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Introduction

The incidence of heart disease is less than 1% among hospital deliveries, but its association is responsible for about 15% of all maternal deaths in USA. The commonest cardiac lesion in our country is of rheumatic origin followed by the congenital cases. The incidence of heart disease during pregnancy has remained stable for many years, but over the past two decades it reduced due to adequate treatment of rheumatic fever by using appropriate antibiotics.¹ Medical treatment of heart disease during pregnancy is supervised and controlled by cardiologist, but the obstetrician must have adequate knowledge about heart disease in pregnancy. They must know immediate management of complications of heart disease like congestive cardiac failure, acute pulmonary edema, arrhythmia etc.

Pregnancy causes significant changes in cardiovascular physiology, particularly marked increase in cardiac output, thus increasing the work load of heart and decreasing peripheral vascular resistance. A normal heart has got enough reserve power so that extra load can be well-tolerated. Diseased heart with good reserve can ever withstand the strain, but if the reserve is poor, cardiac failure occurs sooner or later. There are several

periods during pregnancy when the danger is great, the first one is between 12th and 16th weeks of pregnancy. A second critical period is between 28th and 32nd weeks of gestation and 3rd one is during labor and delivery. The final danger time is 4–5 days after delivery.²

Pregnancy outcome is compromised by the presence of cardiac disease. There are chances of preterm delivery, premature IUGR and prenatal death. The overall perinatal mortality for pregnant patient with heart disease is as high as 20%.³

Women with heart disease should have pre-conceptual counseling about risk of pregnancy, neonatal and perinatal risk and complications. The need for early hospital admission and possibility of critical care should be discussed. The need for the induction of labor, shortening of second stage of labor, method of anesthesia, prophylaxis of endocarditis, anticoagulant therapy should be discussed during counseling.⁴

Case report

A 25-year-old female, housewife, a known case of rheumatic heart disease, severe mitral stenosis, mitral regurgitation grade II and pulmonary hypertension,

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hailing from a remote village of Sylhet district presented with 36 weeks of pregnancy, pain in lower abdomen and respiratory distress. Patient was 4th gravid and had two alive babies. Age of her last child was two years. Both of them were delivered by normal vaginal delivery. She had history of one abortion. On examination, her pulse was 80 beats/min, BP 110/70 mm Hg and temperature was 98.4⁰F. On auscultation of precordium, mid-diastolic and pansystolic murmurs were present. Bilateral basal crepitations were heard in lungs. On per abdominal examination height of uterus was 34 weeks, fetal movement was present, and fetal heart rate was 130 beats/minute. On per vaginal examination patient was not found in labor. Investigations revealed Hb 60%, platelet count 240000/cumm, prothrombin time 13.5 seconds, INR 1.06 and urine routine microscopic examination showed pus cell 10–12/HPF. Echocardiography showed severe mitral stenosis with mitral regurgitation grade II and pulmonary hypertension.

With close monitoring of obstetrician and cardiologist, her condition improved. She was treated by broad spectrum antibiotics, injection frusemide, enoxaprin and analgesics. With this conservative treatment patient went into spontaneous labor. She delivered a healthy male baby per vaginally without any complication. Patient was discharged on 7th postnatal day with warfarin and phenoxymethyl penicillin. She was advised for permanent contraception and regular check-up.

Discussion

Pregnancy with heart disease is not uncommon, it affects both fetus and mother. Prognosis depends on nature of lesion, functional capacity of heart and quality of medical supervision provided during pregnancy, labor and puerperium.⁵ Management of heart disease in pregnancy depends on early diagnosis, evaluation of functional grade, detection of high risk factors and prevention of cardiac failure.⁶ Obstetrician with the help of cardiologist should care the patient and hospital delivery is mandatory. If needed prophylactic antibiotics and anticoagulant should be used. The patient taking warfarin should discontinue the drug as soon as pregnancy is diagnosed. But it should be replaced by heparin 5000 units daily subcutaneously and to be continued up to 12th week. This is then replaced by warfarin and to be continued up to 36th week of pregnancy. Thereafter it is replaced

by heparin again and to be continued up to 7th postpartum day. Then warfarin is continued.

Most of the patients with heart disease go into spontaneous labor and babies are delivered without any difficulty.⁷ If needed, induction may be given in very selected cases. After delivery the patient should be observed closely for the first 24 hours, oxygen is to be administered, and pulse, BP and respiration are to be recorded hourly. Diuretics may be used if needed.

Maternal mortality is the lowest in rheumatic heart disease, but highest in cyanotic heart disease.⁸ Maternal death is due to cardiac failure and maximum death occurs following childbirth. Fetal outcome is also good in rheumatic heart disease but in cyanotic heart disease there is increased fetal loss.⁹ With improved medical care, surgical correction of congenital lesion and better obstetrical care, maternal and fetal mortality and morbidity have been reduced markedly.

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