

Congenital Pulmonary Stenosis in Pregnancy with Favourable Feto-Maternal Outcome: A Case Report

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Abstract: Pulmonary stenosis (PS) accounts for 10% to 12% of congenital heart disease in adults. Informations on the outcome of pregnancy in patients with pulmonary valve stenosis is scarce. We present a case report of 26 yrs old primigravida who came to Safdarjung outpatient department at 28wks of gestation with breathlessness on exertion. Her antenatal period was uneventful. On examination, patient was stable. Inference of the 2 D Echocardiography of the patient was moderate Pulmonary Stenosis. Patient went into spontaneous labor at term. Patient delivered a 2.9 kg boy baby. Third stage of labor was uneventful. In postpartum period she deteriorated to NYHA class III on 2nd day of delivery but relieved on symptomatic management.

Keywords: Pulmonary Stenosis, Vaginal delivery, Cardiac disease..

INTRODUCTION

Cardio circulatory changes associated with pregnancy may result in a significant hemodynamic burden and can lead to morbidity and even mortality in women with any cardiac disease. Many times they are diagnosed during antenatal period and have a rapid progression with poor feto maternal outcome. Pulmonary stenosis (PS) accounts for 10% to 12% of congenital heart disease in adults. Many of these patients remain asymptomatic to adult life. As a consequence, there is a new cohort of women with complex heart disease who wish to embark on pregnancy [1, 2]. Maternal heart disease complicates approximately 4% of all pregnancies [3]. However, it accounts for 10% to 25% of maternal mortality [4]. During pregnancy, right ventricular obstruction tends to be very well tolerated despite the gestational volume overload imposed on an already pressure-loaded right ventricle.

Diagnosis is confirmed by echocardiography and measurement of peak gradient across pulmonary valve grades the severity of disease. Balloon valvuloplasty is recommended in non-pregnant patients. Vaginal delivery is tolerated well and can be permitted in the great majority of patients with Pulmonary Stenosis.

CASE REPORT

26 yrs old primigravida was referred from peripheral hospital at 28wks of gestation with a suspicion of heart disease. Her pregnancy was supervised. Two doses of Tetanus toxoid was given to her. She was graduate and housewife. She was not having any complaints like dyspnea, cyanotic episodes, chest pain, palpitations however she gave history of easy fatigability. She was comfortable with day to day activities. Her past medical history was not significant. No history of any heart disease in the family. Her antenatal period was uneventful with NYHA grade I breathlessness. On examination, patient was conscious, well oriented to time, place and person. Her vitals were stable. Height was 156 cm and weight was 53 kg. Systemic examination was normal except on auscultation of cardiovascular system, systolic ejection murmur in left upper sternal border that increases with inspiration and radiates diffusely. The murmur was preceded by a systolic ejection click. On abdominal examination, uterine size was corresponding to the period of gestation with a single live fetus in cephalic presentation. Cardiologist opinion and regular antenatal checkup was done. Her regular antenatal investigations were normal. Among specific investigations liver function test, kidney function test and coagulation profile were also normal. Antenatal ultrasound, electrocardiogram and fetal echo were normal.



Fig. 1: 2 D ECHO report film

2 D ECHO of the patient shows Valvular Pulmonary stenosis, RA & RV not dilated, Peak systolic gradient 59mm Hg, LVEF= 66%, IAS/IVS intact, No intracardiac mass, thrombus, vegetation.

Patient went into spontaneous labor at term. She was given antibiotic prophylaxis. Pt had a normal course of labor and delivered by vacuum to cut short second stage of labor. Third stage of labor was uneventful. No postpartum hemorrhage. 2.9 kg boy baby was delivered. Intensive care monitoring and intermittent oxygenation was given. In postpartum period she deteriorated to NYHA class III on 2nd day of delivery but relieved on symptomatic management. Echocardiography of the baby was normal. Patient was discharged with a healthy baby after 7 days.

DISCUSSION

Congenital pulmonary stenosis is a relatively rare (2%), but stable heart disease and has a favorable outcome in pregnancy [5]. It is found in approximately 4.6–7.0/10 000 live births [6]. There is no significant impact of PS on maternal and fetal well-being. These findings are in contrast to the effect of stenosis of other valves such as mitral and aortic on pregnancy outcomes. Vaginal delivery should be the preferred route in patients with PS, and cesarean delivery should be reserved for obstetric indication only.

American Heart Association / American College of Cardiology practice guidelines have recommended balloon valvuloplasty in asymptomatic non pregnant patients with PS when the mean doppler gradient across the pulmonary valve is greater than 40 mm Hg [7]. The performance of balloon valvuloplasty during pregnancy may impact unfavorably on fetal well being secondary to the complications arising due to cardiopulmonary bypass and anaesthesia. So it should not be done during pregnancy. Pulmonary Stenosis in isolation has risk of fetal transmission as 5%.

Hameed *et al.* [5] has observed 17 cases of pulmonary stenosis over a period of 1995-2006.

Caesarian section was done for obstetrical indication with a vaginal delivery rate of 94%. No complications were observed in any of the cases.

Drenthen *et al.* [6] studied a total of 108 pregnancies (between 1 January 1985 and 2005) in 51 patients. The authors also concluded that PS during pregnancy followed an indolent course with very low complication rates. Nine patient developed arrhythmia with no other complication. Vaginal delivery occurred in 80% of cases.

CONCLUSION

Isolated Pulmonary stenosis has a favorable fetomaternal outcome. Timely diagnosis and multidisciplinary management can lead to a smooth delivery. The impact of PS on pregnancy has not been extensively studied and a diagnosis of PS increases both obstetrician & patient anxiety. Thus knowing about the lesion might relieve the anxiety.

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