

Case Report

Successful Pregnancy of a DVR Patient -A Case Report.

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Abstract:

Mrs Rojina Akter 27 years old lady presented to us with complains of 12 weeks amenorrhea with the history of Rheumatic heart disease (MS-severe with MR Gr-2+ with AR Gr-2) treated surgically with mechanical metallic Double valve Replacement on 7th April 2010 in Cardiac Surgery Department of KYAMCH. It was her second conception, first one was terminated by MR due to fear of cardiac problem out side of this hospital. She also noticed slight breathlessness & palpitation. On examination- she was anxious, her respiratory rate, pulse rate & blood pressure were within normal limits. Her ECG report was within normal limit & colour Doppler Echo study showed normally functioning prosthetic metallic valves in Aortic & Mitral position with normal ejection fraction. Under joint-consultation with Cardiologist & Obstetrician she was advised to continue her pregnancy with careful & regular antenatal check up. During antenatal period she continued her cardiac medications & other supplementary drugs for her pregnancy. Without some minor ailments she continued her pregnancy up to 38 wks, then she delivered a healthy female baby by caesarean section on 6th August 2012. Now she is well under the supervision of Cardiologist.

Keywords:-RHD,MS,MR,AR.

Introduction

Pregnancy is the maternal condition of having developing fetus in the body¹. A high risk pregnancy is that with a significant probability for poor maternal or fetal out-come. A high risk pregnancy can be identified only if the women have access to prenatal care. High risk pregnancy is a small segment of obstetrical population that produces the majority of the maternal & fetal mortality & morbidity. This denomination includes women with chronic HTN, pre-gestational diabetes, anemia, chronic lung disease, Rh-alloimmunization, cardiac & renal diseases². In women who have prosthetic heart valves, and pregnancy is risky for mother & fetus. Heparin has been considered safer for the fetus than warferin, but may not provide adequate anticoagulation for mother.

Although pregnancies complicated by heart disease in

the UK, Europe & the developed world. Cardiac disease is now the leading cause of maternal death in the UK³. The outcome & safety of the pregnancy are related to the -presence & severity of pulmonary hypertension, presence of cyanosis, homodynamic significance of the lesion & functional class as determined by the level of activity that leads to dyspnoea⁴. Most women with pre-existing cardiac disease tolerate pregnancy well if they are asymptomatic or only mildly symptomatic before the pregnancy, but important exception are pulmonary hypertension, Marfan syndrome with a dilated aortic root & some women with mitral or aortic stenosis⁵. World wide mitral stenosis remains the most common potentially lethal pre-existing heart condition in pregnancy there are many pitfalls because an asymptomatic patient may deteriorate in pregnancy,

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mitral stenosis may have increased in severity since a previous uncomplicated pregnancy, stenosis can recur or worsen after valvoplasty or valvotomy & mitral stenosis that may previously not have been recognized may be missed during antenatal examination because the murmur is diastolic & sub mammary gland. The risk are increased with severe mitral stenosis, moderate or severe prior to pregnancy & in those diagnosed late in pregnancy⁶. Women with severe mitral stenosis should be advised to delay pregnancy until after balloon, open or closed mitral valvotomy or if the valve is not amenable to valvotomy, until after mitral valve replacement⁷.

CASE REPORT-

Mrs Rozina Akter, 27 years old lady has got attained in OPD of KYAMCH, with the complaints of 12 wks amenorrhea, slight breathlessness & palpitation. She was having history of Rheumatic heart disease which was treated surgically with Mechanical Metallic Double Valve Replacement & she was on cardiac medications. It was her second conception & first one was terminated by MR due to fear of cardiac problem. She noticed that this pregnancy will be risky for her life so some gynecologist advised to terminate the pregnancy but she refused the advice & took risk herself & came to KYAMCH for joint consultation with cardiologist & gynecologist for continuation of her pregnancy.

On Examination-

She was anxious & well co-operate. Her respiratory rate-20 br/m, pulse rate-88b/m, blood pressure-105/75 mm of hg, other systemic examination revealed no abnormality detected. (Precardium & Respsysfese Exam Such and Basal creps)

Investigations-

Hb%-13.3 gm%. RBS-4.85 mmol/L. Blood group-O+ve. Urine, R.M.E- normal. Colour Doppler Echo- study-Post DVR status-AVR & MVR- Normal functioning prosthetic MV in situ with PPG=12 mmg. -Prosthetic AV in situ with PPG = 15 mmg. Normal LV systolic function with LVEF=60%. ECG-Sinus rhythm& poor R-progress v1-v4 .Prothombin time-10.30 sce. & INR-0.86.

She was on inj. LMWH instead of let. Warin with the advice of cardiologist in the first trimester of pregnancy. Then she was on medications with tab. Penvik 250 mg & tab. warin 5mg once daily at the same time each day

and continued up to 36 wks of gestation. She was on regular follow up under cardiologist & antenatal check up under gynecologist. Her pregnancy was continuing up to 38 wks of gestation without any cardiac or obstetrical complications. Then she was advised to admit in this institution for better management. After admission again inj. LMWH was started & warin was stopped & other medications were counted. Then we stopped inj. LMWH 48 hours before elective caesarean section. During post operative period after 48 hours again we started oral anticoagulant. It was maintained by the report of PT with INR. Then elective lower segment caesarean section was done on 6th August 2012 at 10 am & delivered a healthy female baby weighting about 2.9 kg. After proper management she was discharged on 6th post- operative day. Now she is well & followed up under cardiologist with medications.

Discussion-

During pregnancy blood pressure starts to rise by the 5th wks after conception. Blood pressure falls slightly by terms has usually returned to the pre pregnancy value. The increased cardiac output is achieved by an increased in stroke volume & a lesser increase in resting heart rate of 10-20 b/m by the end of 2nd trimester, the blood volume & stroke volume have risen by between 30% & 50%. This increase correlate with the size & weight of the products of conception. So the risk of heart failure is more in heart disease⁸. Labour is associated with further increase in cardiac output 15% in first stage & 50% in 2nd stage. Cardiac output is increased more during uterine contractions but also between contractions. The rise in stroke volume with each contraction is attenuated by good pain relief & further reduced by epidural analgesia & the supine position. Anesthesia causes arterial vasodilatation & a fall in blood pressure⁹. Most women with prosthetic heart valves have sufficient cardiovascular reserve to accomplished pregnancy safely. The optimal strategy for anticoagulation in women with metal heart valve replacement in pregnancy is controversial since the interest of mother & fetus are in conflict. These women require life long anticoagulation & this must be continue in pregnancy because of the risk of thrombosis. If the INR is meticulously controlled maternal risks from Warferin are hardly, if at all, increased, however, warferin is associated with warferin embryopathy if given during the period of organogenesis¹⁰, and fetal intracranial hemorrhage at any time. Warferin also increase the risks of miscarriage & stillbirth¹¹. The fetal risk from warferin is dose dependent. Fortunately, most

women require less than 5 mg daily. Women requiring more than this are at increased risk of teratogenesis, miscarriage & stillbirth¹². If warferin is used in pregnancy serial fetal scans are indicated to detect severe embryopathy.

To avoid warferin embryopathy & other unwanted anticoagulant (warferin) induced complications, warferin was replaced by LMWH during 1st trimester that is the period of organogenesis. Warferin should be discontinued & substituted for LMWH (low molecular weight heparin) for 10 days prior to delivery, to allow clearance of warferin from fetal circulation. Conversion from LMWH back to warferin should be delayed for at least 3-5 days post partum to minimize the risk of obstetric hemorrhage. Women with metal valve replacements all require antibiotic infective endocarditis prophylaxis for delivery regardless of the mode of delivery^{13, 14}.

Conclusion-

In conclusion after mechanical heart valve replacement (DVR)-proper counseling, use of LMWH in 1st trimester & before elective caesarean section -successful outcome of pregnancy with healthy baby & safe mother without any complications is possible by the collaboration of both Gynecologist & Cardiologist jointly. So further study may be done with larger number of cases to conclude this case report.

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