

Case Report on Rheumatic Heart Disease In Pregnancy

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Abstract:

Introduction: Cardiovascular disease is accountable for 10% to 15% of maternal temporality and causes problems in 1% to 3% of all pregnancies. In low-income countries, Rheumatic Heart Disease (RHD) accounts for over 90% of all congestive heart failure in pregnant women. **Patient History:** At 15 weeks of pregnancy, the patient, a 27-year-old woman in her first pregnant, was refer by a physician with a detection of RHD. On 30/5/21, she was admitted to the AVBRH Hospital's Sawangi Meghe Wardha with the primary complaint of trouble breathing, easy fatigability, and lower limb pain. **Clinical Findings:-** The patient had done all necessary investigations by physicians order Medical management: Patients who develop signs or symptoms of heart disease during pregnancy should receive medical attention and be limited in their activities. Diuretics can be used to treat congestive symptoms, if both beta-blockers and non-dihydropyridine calcium channel antagonists are contraindicate, digitalin may be tried. **Nursing management:** - maintained fluid which administered ex. NS, vital signs checked and recorded, rest and quiet environment, provide adequate nutrition, monitor/IO chart, explain treatment and home care. **Conclusion:** The patient has been admitted to AVBRH's ECG/ECO department, where she will receive continued medical and nursing treatment, and her health is stable and being monitored.

Keywords: - Pregnancy, Mitral Stenosis, Artificial Heart Valve.

Introduction:

RHD is a condition that mostly affects young people, with the majority of those affected being women of reproductive age. Because they are unable to endure the physiological changes associated with pregnancy on their defective cardiac valve, some of these women are diagnosed antenatally or postpartum, resulting in clinical decompensation.¹

A higher frequency of prenatal problems has been linked to symptomatic mitral stenosis (MS). Hospitalization is common in the postpartum period, with a 50% death rate. Pregnancy provides particular complications for women with RHD, despite the fact that it is a very painless experience for most women. Aside from the heart's impact throughout pregnant and delivery, there are other factors to consider. on the concussion of RHD treatment on the developing fetus Some medical analysis can cause embryotoxic effects, and surgical therapy during pregnant may accelerate the harm of miscarriage. We examine two cases of RHD in pregnant that resulted in poor results for both the mother and the foetus.²

Patient history: - A 27-year-old woman was admitted in AVBRH hospital with the chief complaint of difficulty in breathing, easy fatigability and lower limb. Although she had been symptomatic since

childhood, she had only recently been detected with serious MS three weeks before to presentation. Women with anticoagulants require a dependable contraceptive strategy that does not raise coagulum risk, reduces Menorrhagia, and prevents anovulation before becoming pregnant.

Primary concern and symptoms of patient: - Patient is 27-year-old female was admitted in AVBRH with the present complaint of Shortness of breath and chest discomfort. painful joints especially knees ankles, elbows and wrist, heart murmur rapid or irregular heartbeat, Fever.

Medical, family and psycho-social history: - present case had history of taking contraceptives, in family history she is belong to nuclear family. She mentally stable, conscious and oriented. She was maintained the good relationship with doctors and nurses as well as other patient also.

OUTCOME: - present case had no any history, no pregnancy history Prematurity in fetuses of women with rheumatic heart disease ranges from 20% to 30%, fetal growth restriction from 5% to 20%, and stillbirth from 5% to 20%. (1 percent to 3 percent). The therapy of pregnant women with heart problems has greatly improved thanks to advances in cardiology and obstetrics.

Clinical Findings: - This is because increased heart stress can produce symptomatic rheumatic heart disease in people who previously had no symptoms. Pregnancy can cause the onset or aggravation of symptoms such as shortness of breath during simple activities and waking up out of breath at night.

General examination: - State of health: - unhealthy, General condition: - not satisfactory ,State of consciousness:- conscious, Body build:- moderate , Hygiene:- maintained

General parameters: - Height: - 160, Weight: - 70

Vital parameters: - Blood pressure: - 130/90, Temperature: - 99.5°F, Pulse: - 80 b/m Respiration: - 24 b/m, SPO2:- 95%,Heart sound:- heart murmur rapid or irregular heart beat

Diagnostic Evaluation: A 30 percent to 50 percent increase in blood volume occurs during pregnancy, resulting in greater strain on the heart valves. This elevated pressure poses greater maternal and/or foetal risks for women with rheumatic heart disease. HB – 9.7, CCF: - 9 , LHF:- 1 , AF:- 27.3

Therapeutic Intervention: - Benzathine Penicillin- 0.6-1.2 millions unit, Azithromycin, Cefuroxime, oral penicillin 500mg BD, tab- Erythromycin 250mg BD, Aspirin 18 to 100mg per kg per day , prednisolone 1-2mg per kg per day

Physical Examination: - History Collection, Assessment, Auscultation, Inspection, Palpation, Blood Test ,ECG. An echocardiogram indicated a 1cm mitral valve area, an EF of 59.3%,and a comparatively dilated left atrium with a diameter of 5560mm and no pulmonary hypertension. The approximation foetal weight (EVW) was 1950g with normal flow of the middle cerebral artery (MCA) and the umbilical artery (UA).She seemed to be in a pleasant mood. She was admitted to the Coronary Care Unit four weeks after giving birth due to out of breath, acute supraventricular tachycardia, and hypokalemia.

Follow up and outcomes: -

Patient with appropriate follow-up, patient with mild MS(MVA>1.5 cm) Usually have a favorable pregnancy outcome Valve repair before pregnancy

Discussion: -

To manage the chronic tachycardia, Case was prescribed propranolol. heart block such as cardiac arrhythmia and ventricular tachycardia are common in RHD patients To modify atrial and ventricular rate and rhythm, selective oral betablockers, Amlodipine, amiodarone, or digoxin can be utilised.³

Although a complete analysis was unable to make conclusions about the impact of betablockers like metoprolol on prenatal mortality and immature delivery, there was sufficient evidence that they do increase neonatal bradycardia, apnea, hypoglycemia, and hyperbilirubinemia.⁴

The kid was born with a low birth weight, which could have been caused by intrauterine propranolol exposure. Nonselective betablockers, such as labetalol, have fewer recognized harmful effects on the foetus, but they have not been demonstrated to be effective When it comes to the therapy of arrhythmias. The use of amiodarone during pregnancy has been associated to an increased risk of miscarriage. Temporary hypothyroidism, goiter, and minor neurodevelopmental abnormalities can occur in the fetus or baby⁵

.It's only used when other medications haven't worked for the mother's tachyarrhythmia. When the mother is taking very high dosages of digoxin, it quickly passes the placental barrier and is linked a greater risk of miscarriage and fetal death. In the third trimester and puerperium, Maternal mortality is the most common cause of death. Due to the alleviation of caval compression, cardiac output remains high immediately after delivery compared to prenatal values.⁶

Continued resorption of extracellular fluid into the intravascular compartment and autotransfusion from the uterus. During the postpartum period, high level observation is essential until the hemodynamic abnormalities have resolved. In the case of instable Patients may need to be monitored in the hospital for a lengthy period of time. Women with RHD, in particular, should plan their pregnancies. Anticoagulant treated women require a dependable contraception that does not raise thrombotic risk, reduces monthly hemorrhage, and prevents ovulation. The option of the concussion of an unwanted pregnancy, the dangers and benefits of each type, and individual preferences should all be considered while choosing a contraceptive technique. Although sterilization is an option for the woman in the second scenario, she chose the Copper T intrauterine contraceptive device (CIUCD) because permanent methods are problematic for first time mothers. Combination oral contraceptives should be avoided by women who have had artificial heart valves in the past.⁷

Pregnancy in patients with valvular heart disease may be challenging for both physicians and their patients, and it might be linked to poor mother and fetal outcomes, therefore it's critical to understand their clinical presentation and care. Because of the potential impact on the fetus from drug therapy and exposure to ionizing radiation associated with diagnostic and therapeutic procedures such as cardiac catheterization or percutaneous balloon valvuloplasty, as well as the effect of anesthesia and cardiopulmonary bypass in the case of cath, the management of MS during pregnancy is more complicated. Clinicians treating women with MS must distinguish between two categories of patients:

those who want to get pregnant and are being examined before to conception, and those who are already pregnant.⁸ A number of studies reflect on different types of complicated pregnancies⁹⁻¹³.

Conclusion:

Before getting pregnant, women with RHD who are of childbearing age should be assessed and informed about pregnancy's possible impact on their cardiovascular function. Those who decide to conceive or who make an appearance after conception require medical attention from an MDT, with an emphasis on recognizing and avoid decompensation and fetal anomalies during pregnancy and the post-partum.

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