



PREGNANCY WITH COMPLETE HEART BLOCK-AN EMERGENCY CAESAREAN SECTION WITH TEMPORARY PACEMAKER: A CASE REPORT

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KEYWORDS :

Complete heart block (CHB) is a relatively rare and potentially serious issue in pregnancy.

This condition poses a significant challenge to the treating physician.

Obstetric outcome in women who have undergone permanent pacemaker has been reported, but there is a lack of literature on the management of complete heart block detected for the first time during labour in pregnancy.

We herein present a case of pregnancy with CHB detected for the first time during the latent stage of labour that has been managed by temporary pacemaker insertion with the coordination of a cardiologist, anaesthetist and obstetrician.

CASE REPORT:

A 20-year-old, un-booked, Primi at 38 weeks of gestation, was referred from a private hospital in view of Prolonged PROM in latent stage of labour with maternal bradycardia of 32- 40bpm. She had a regular antenatal check and it was uneventful. Had no cardiorespiratory complaints. No history of any medical illnesses, addiction, or drug intakes such as beta-blockers, calcium-channel blockers. No significant family history. On examination her general condition was fair, normotensive, with maternal bradycardia (PR=32 bpm). Cardiovascular system examination showed bradycardia and the respiratory system was unremarkable. On Obstetric examination, full term pregnancy with a single live fetus in cephalic presentation with a fetal heart rate of 140 beats/minute with regular uterine contractions. On per vaginal examination, cervix was 50% effaced, os 2 cm dilated, vertex at -2 station, membranes absent with clear leaking of liquor. Cardiology consultation was done in view of persistent bradycardia. An electrocardiogram (ECG) was done immediately which showed sinus bradycardia, atrioventricular (AV) dissociation, and ventricular rate 40% suggestive of complete heart block. Echocardiography was normal.

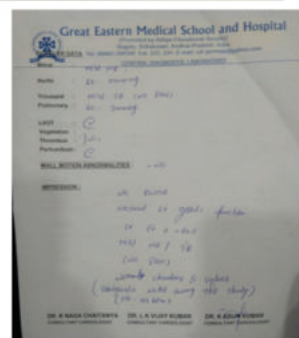
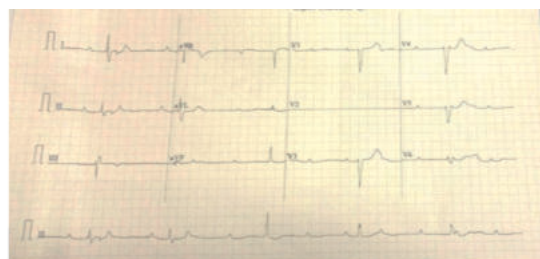
All her routine investigations & thyroid and Renal Function Test are within normal limits. The patient was shifted to the cath lab and temporary pacemaker insertion (TPI) was done via the Right femoral vein route (Local Anaesthesia) and the heart rate was fixed at 80bpm. Emergency caesarean section was done Under spinal anaesthesia with high-risk consent in view of prolonged PROM (>24 hrs) with failed induction. Intraoperative hemodynamic status stable and surgery proceeded uneventfully. She delivered a healthy Female baby.

The neonate did not have any rhythm disturbances. The patient was transferred to Cardiac ICU for observation. Postoperatively, continuous monitoring was done with a pulse oximeter and non invasive blood pressure. She was started on IV antibiotics (third-generation cephalosporins and metronidazole) and thromboprophylaxis with unfractionated heparin 5000IU IV 6th hrlly. Heart rate tapered from 80 to 40bpm. The rest of the postoperative period was uneventful.

On 4th postoperative day, TPI was removed under aseptic precaution (Tab. Deriphylline and Tab. Orsibest added) On

POD-10 patient had Generalised Tonic Clonic Seizures (GTCS), physician, neuro physician, cardiologist opinion taken and convulsions controlled by giving Inj. Levipil 500mg IV in 100ml NS, Inj. Phenytoin 800mg IV in 100ml NS, Inj. Lorazepam 2mg slow IV, Inj. MgSO₄(5gm IM 4th hourly 6 doses given) Patient stabilized The cause of GTCS may be due to hypoxic ischemia because of persistent bradycardia.

On POD16 permanent pace maker kept along with Antibiotics, Heparin, Pyridoxine.



DISCUSSION:

CHB detected for the first time during pregnancy and delivery is a rare disease with an incidence of 1 in 20,000 live births. The etiology of complete heart block is not completely understood yet however it's considered to be mostly congenital in origin, un noticed like in our case.

Most often these patients are asymptomatic; however, the symptoms can also occur later in life. This is due to a variable degree of heart block. Feto maternal outcome is favourable in asymptomatic cases and in uncomplicated bradyarrhythmia's without significant underlying heart disease.

Rarely, preterm birth and intrauterine growth restriction is observed. If maternal resting heart rate of 50 beats/min or less,

the fetus chances to get hydrops fetalis, neonate will get heart failure, if heart block is transmitted to child there is exercise intolerance.

Regarding Mortality from congenital complete heart block, it is highest in neonatal period, is much lower in childhood and adolescence and increases gradually later in life.

Asymptomatic pregnant patients without pacemakers may present with sudden cardiac death or heart failure during pregnancy, or may become symptomatic during labour due to Valsalva induced bradycardia.

If complete heart block presenting for the first time in pregnancy, it is a therapeutic challenge to the physician. All Symptomatic patients in pregnancy should be managed with the use of cardiac pacemaker, should be implanted whenever it is diagnosed. Pacemaker is needed to maintain cardiac function.

In women without a permanent pacemaker, temporary pacemakers are routinely inserted for labour and birth to withstand any hemodynamic variations.

However, the need of temporary pacemaker during labour and its accurate timing and rate setting of pace maker has not been objectively evaluated so far. Permanent pacemakers is implanted at any time in pregnancy, whereas temporary pacemaker is applied during delivery. Overall maternal and neonatal outcome is good in such patients.

CONCLUSION:

In our case CHB is identified at near term pregnancy with quite a low heart rate (32 beats/min) and with history of dizziness.

Women with asymptomatic CHB presenting at the time of labour poses a challenge to the treating Obstetrician. Emergency caesarean section was carried out under temporary pacing coverage with a later plan of a permanent pacemaker implantation resulting in excellent symptom free status.

To our knowledge, this is the first case reported in Great Eastern Medical School and Hospital (GEMS&H) where the co-operation and co ordination of cardiologist, anaesthetist and obstetrician of our hospital has resulted in a happy ending by successful implantation of pacemaker in a pregnant woman.

As suggested by our case, caesarean delivery might be safely contemplated with temporary pacing in symptomatic women with CHB. However, close monitoring with multidisciplinary approach and follow-up of cardiac function is needed in these pregnant women during labour and perioperative period.