SPONTANEOUS BRADYCARDIA IN PREGNANCY

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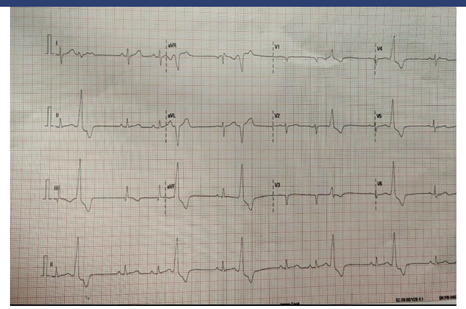
INTRODUCTION

- Arrhythmias and conduction disorders are the most common cardiac complications encountered during pregnancy in women with and without structural heart disease
- They may manifest for the first-time during pregnancy, and in other cases, pregnancy can trigger exacerbations in women with pre-existing arrhythmias

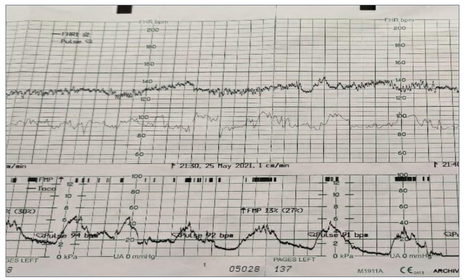
CASE REPORT

- A Primigravida at 39 weeks was induced with Propess for Crohn's disease, currently in remission.
- She was asymptomatic and there were no underlying cardiac conditions elicited in the history .
- ARM followed by augmentation of labour was done with oxytocin infusion according to local protocol.
- However, once she was in active labour, her pulse (palpated and on O_2 probe) dropped to 44 bpm, in both arms measured simultaneously.
- Her heart rate on ECG however was 84 bpm (See image 1).
- Blood pressure was 130/80 mm Hg. Chest was B/L clear on auscultation.
- Her cardiac rhythm was regular with a varying first sound intensity. No murmurs were heard.
- Her extremities did not show significant oedema.
- A multidisciplinary team approach was taken involving the Consultant Obstetrician, Cardiologist, Anaesthetist and Midwives.
- The decision was taken to manage her conservatively with no limitations of uterotonics.
- She delivered a healthy baby girl with active management of third stage of labour.
- She was under close monitoring and asymptomatic in the next 24 hours.
- Her heart rate improved spontaneously to normal within the next 24 hour before discharge.
- She was discharged with a 6 weeks follow up with 24 hours ECG with the Cardiologist- Normal

INVESTIGATION



ECG report –
VENTRICULAR HEART - 84 BPM ,
PR interval – 138 ms
QRS interval 92 ms
IRREGULAR
? VENTRICULAR ECTOPICS



CTG – DR – HIGH , CONTRACTIONS- 4/10
BASELINE- 126
VARIABILITY >5
ACCELERATION +
NO DECELERATIONS
OVERALL – NORMAL (as per NICE)
PHYSIOLOGICAL- LOW RISK OF HYPOXIA

DISCUSSION

- **The cardiovascular system undergoes significant change in adaptation to pregnancy-**
  - **increased heart rate and cardiac output,**
  - **reduced systemic resistance,**
  - **increased plasma catecholamine concentrations and adrenergic receptor sensitivity,**
  - **atrial stretch and increased end-diastolic volumes due to intravascular volume expansion, hormonal and emotional changes.**
- **A combination of these and the heightened visceral awareness experienced in pregnancy may lead a woman to seek advice on symptoms that are within the normal range and may otherwise have been ignored.**
- **The pregnant state is unlikely to generate a new arrhythmia, however the physiological changes may render a pre-existing state capable of sustaining an arrhythmia.**
- **A bigger heart can sustain re-entry more easily and mechanical stretch is well known to be arrhythmogenic.**
- **Pregnancy may also affect the trigger for arrhythmia generation.**

CONCLUSION

- **Through this case , we highlight the fact that while cardiac arrythmias are common in labour, their nature and presentation can be quite varied.**
- **When faced with such a clinical situation, a rigorous search for underlying cardiovascular disease is mandatory.**
- **In the absence of this and haemodynamic compromise, we propose that watchful waiting should be the rule and vaginal delivery the goal.**

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