Beat by beat : Navigating ventricular bigeminy in pregnancy

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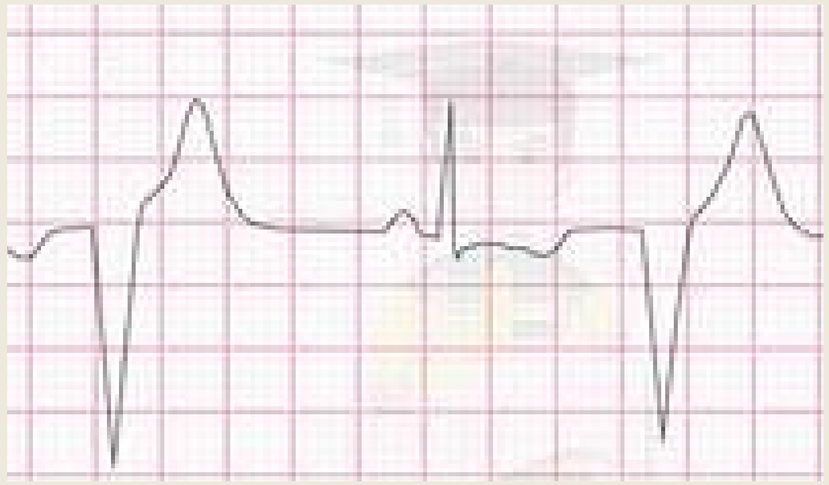

01. Introduction

Ventricular bigeminy is a type of cardiac arrhythmia characterized by alternating normal heartbeats and premature ventricular contractions (PVCs). This creates a "bigeminal" rhythm, where every other heartbeat originates from an abnormal electrical impulse in the ventricles

Discussion

Ventricular bigeminy in pregnancy, often benign, can be managed conservatively in the absence of symptoms or structural heart disease. Pregnancy-induced hemodynamic changes may exacerbate arrhythmias; however, careful monitoring usually ensures safe outcomes. This case demonstrates that asymptomatic ventricular bigeminy, with proper management, can lead to an uncomplicated delivery

Management of arrhythmias during pregnancy focuses on minimizing maternal and fetal risks while tailoring treatment to the arrhythmia type and severity. Key considerations include:

1. *General Approach:*
   - *Evaluate underlying causes (e.g., electrolyte imbalance, thyroid dysfunction).*
   - *Use non-pharmacological measures when possible.*
2. *Supraventricular Tachycardia (SVT):*
   - *First-line: Vagal maneuvers and IV adenosine.*
   - *Beta-blockers (e.g., metoprolol) or calcium channel blockers for prevention.*
3. *Ventricular Arrhythmias:*
   - *Stable patients: Beta-blockers.*
   - *Emergency: Synchronized cardioversion.*
4. *Atrial Fibrillation/Flutter:*
   - *Anticoagulation if high thromboembolic risk (e.g., low molecular weight heparin).*

Close multidisciplinary monitoring is essential. For specific details, consult cardiology and obstetric guidelines.

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CASE

A 34-year-old woman, G3P2L2, was found to have ventricular bigeminy on ECG during a routine antenatal visit at 32 weeks. She reported occasional palpitations without syncope, chest pain, or shortness of breath. Blood pressure and oxygen saturation were normal, and echocardiography showed no structural heart abnormalities. She was managed conservatively with follow-up ECGs and cardiology assessments. Given her stability, no pharmacological intervention was required. At 39 weeks, she was admitted for spontaneous labor. Continuous fetal monitoring showed a reassuring fetal heart rate. The patient's ECG continued to show ventricular bigeminy without progression. Vital signs remained stable throughout labor.
She delivered a healthy infant vaginally, with Apgar scores of 8 and 9 at 1 and 5 minutes, respectively. Postpartum, her ECG still showed ventricular bigeminy, but she remained asymptomatic. She was discharged on day 2 with instructions to follow up with cardiology for continued monitoring.

Conclusion

In pregnancy, ventricular bigeminy is often benign and asymptomatic, caused by physiological changes such as increased cardiac output and hormonal fluctuations. However, it may signal an underlying cardiac or systemic condition requiring evaluation. Management focuses on identifying reversible causes (e.g., electrolyte imbalances, anemia, or thyroid dysfunction) and providing reassurance for isolated, asymptomatic cases. For symptomatic or complex arrhythmias, beta-blockers are generally considered safe. Multidisciplinary care involving obstetrics and cardiology ensures maternal and fetal safety, with individualized management based on severity and symptoms.

References

1.
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