Atrioventricular Nodal Reentry Tachycardia in an Emergent Cesarean Section: A Case Report.

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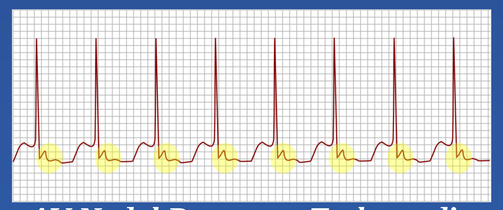
INTRODUCTION

Atrioventricular nodal reentrant tachycardia (AVNRT) is a congenital cardiac anomaly resulting in tachycardia (HR 120-250 bpm) through a reentry circuit within, or near, the AV node. It is the most common type of reentrant paroxysmal supraventricular tachycardia (PSVT).

This is a case report of an obstetric patient presenting with an undiagnosed AVNRT just prior to an emergent cesarean section.



AV Nodal Reentrant Tachycardia
Is evidenced by the yellow P wave that falls after the QRS complex.

CASE REPORT

A 25 yo G1P0 female with a history of "palpitations" and an unremarkable physical exam presented at 40 weeks gestation. Admission vital signs were: BP 129/67 HR 85 RR 16 and a room air SpO2 of 100%. A cesarean section was planned when the mother developed a fever (38.2 C) and had failed to progress.

Shortly after bolusing the epidural with 10 cc 2% lidocaine with 1:200,000 epinephrine, her EKG showed a narrow-complex tachycardia in the 160s. She remained normotensive but complained of mild chest pain. Despite efforts to slow down the HR with carotid massage, adenosine, Esmolol, and phenylephrine, it still remained elevated in the 150s.

The FHR decreased to 100 BPM and an emergent cesarean section, with general anesthesia, was planned due to a patchy epidural. After securing the airway with a rapid sequence technique using etomidate 14mg and succinylcholine 80mg, she conitnued to have a narrow-complex tachycardia with a rate in the 150s. The case proceeded well and the baby was delivered uneventfully.

An intraoperative cardiology consultation determined the tachycardia to be a AVNRT. Five milligrams of IV Metoprolol were given at the end of the case and the patient's HR stabilized to a sinus rhythm with a rate of 70 BPM. A post-operative EKG showed PACs with an aberrant conduction. A TTE revealed no abnormalities. The patient was discharged home on POD #2 with 100 mg Metoprolol daily.

DISCUSSION

During pregnancy, PSVT occurs at an estimated rate of 2.6%. The majority of PSVT, in pregnancy, is due to an AVNRT. Vagal maneuvers, or adenosine, terminate most PSVT. However, other medications, such as calcium channel blockers or beta blockers, might be necessary to terminate this dysrhythmia. Rarely, cardioversion is needed to treat AVNRT. Episodes may last from seconds to days.

AVNRT occurs when a reentry circuit forms within, or adjacent, to the AV node. This circuit is composed of either the fast or slow pathways. Both of these pathways are located within the right atrium. Wolff-Parkinson-White syndrome (WPW syndrome) can be confused with AVNRT. However, the accessory pathways that give rise to WPW syndrome are located in the atrioventricular valvular rings.

Often, no precipitating factor is identified in AVNRT. However, the onset of AVNRT has been linked to stressful situations as well as the consumption of alcohol or caffeine. The onset of AVNRT, shortly after the epidural bolus in our patient, was probably a coincidence. This patient, as most patients with AVNRT, did not have any underlying cardiac pathology. This condition, and its treatment, are usually well tolerated.

References:

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