Supraventricular Tachycardia with haemodynamic instability in second stage of labour - a case report of successful vaginal birth

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Background:

Supraventricular tachycardia is narrow complex (QRS <120ms) tachyarrhythmia (usually HR >150 bpm) arising at or above the level of the atrioventricular node [1]. It is the most common kind diagnosed in pregnancy with the prevalence of 2.25:1000 [2]. Only 2 case reports are available describing onset in labour, one leading to Caesarean and another resulting in a vaginal birth. Neither of these cases had haemodynamic compromise associated with SVT in labour.

Case Presentation:

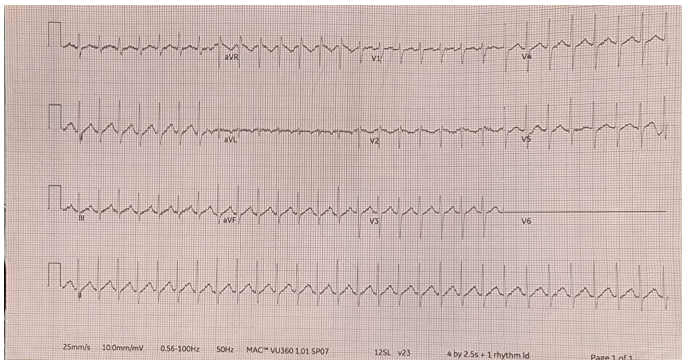
A 34-year-old woman G3P2 was induced at 38 weeks gestation for gestational diabetes mellitus requiring insulin and mild polyhydramnios (26cm pocket at 36 weeks ultrasound). She had a history of obsessive compulsive disorder on clomipramine.

Intrapartum, she requested an epidural for analgesia. Within 30 minutes, her heart rate increased to 165 beats per minute. BP was 80/40 but her GCS was 15.

Obstetric Emergency Code was called. Concurrent fetal bradycardia was noted. While simultaneous resuscitation with fluids and vassopressors was being performed, a vaginal exam was done. She was found to be fully dilated with fetus at station +1. A successful forceps delivery was performed to expedite birth of a live neonate in good condition and assist cardiovascular resuscitation.

Immediately post delivery, 12-lead ECG confirmed SVT. Cardioversion to sinus rhythm was acheieved with 3 doses of adenosine and blood pressure improved. Her postpartum recovery was uncomplicated.

On outpatient echocardiogram, her LV Ejection Fraction was found to be 40% with impaired systolic function consistent with a diagnosis of peripartum cardiomyopathy. Following 4 months of bisoprolol and perindopril, repeat echo showed improved LVEF of 55-60%.



Discussion:

In cases of cardiogenic shock during labour, expedient delivery of the fetus is an important consideration as it reduces cardiac pre-load and restoring adequate maternal circulation. Mode of delivery should be determined depending on maternal status. Prompt multidisciplinary team involvement is required in cases like this to ensure optimal outcome

References:

1)Gowda RM, Khan IA, Mehta NJ, et al. Cardiac arrhythmias in pregnancy: Clinical and therapeutic considerations. Int J Cardiol 2003;88(2–3):129–33.

2)Kotadia ID, Williams SE, O'Neill M: Supraventricular tachycardia: an overview of diagnosis and management. Clin Med (Lond). 2020, 20:43-47. 10.7861/clinmed.cme.20.1.3

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