Supraventricular tachycardia in a parturient with WPW syndrome following the administration of oxytocin during cesarean section: a case report

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Background:
Wolff- Parkinson White (WPW) syndrome is an electrophysiological disorder of the heart, characterized by the presence of an accessory pathway between the atrium and the ventricle. It is notorious for the tachyarrhythmias it is prone to, especially supraventricular tachycardias (SVT) like paroxysmal SVT (PSVT) and atrial fibrillation. This risk is compounded in parturients as the physiological changes of pregnancy facilitate tachyarrhythmias even in patients with previous asymptomatic pre-excitation. WPW syndrome accounts for the majority of SVTs seen in this population; which if not corrected timely may degenerate into life threatening arrhythmias. Moreover, various pharmacological agents used during delivery can precipitate these arrhythmias.

Clinical case:
A 33 year old parturient with WPW syndrome was planned for an elective cesarean section at 38 weeks of gestation and sent to us for pre-anesthesia consultation. She had been diagnosed with the syndrome 14 months back after she started having palpitations and was prescribed oral Atenolol. However, she discontinued the treatment on her own after a month. During pre-operative evaluation, she had had no complications in her antenatal period. A short PR interval and T wave inversion in inferior leads were noted in her ECG. Except for that, all her other investigations were within normal limits. On the day of the operation, emergency drugs along with adenosine, B-blockers and defibrillator were kept ready. Cesarean section was performed under spinal anesthesia with 0.5% heavy bupivacaine with opioid as adjunct. One episode of hypotension was seen which was treated with Inj. Ephedrine. Surgery was started after her adequate level of T4 was achieved. Following the birth of her baby, Inj. Oxytocin 3 U was administered intravenously over 15 seconds, after which she complained of palpitation and her ECG simultaneously showed PSVT. Unilateral carotid massage was immediately performed which resolved the arrhythmia. Rest of the intraoperative and post operative period was uneventful. Cardiologist consultation was done and she was advised to undergo Electrophysiological study with radio frequency ablation and was discharged on 4th post operative day.

Conclusion:
There are many factors which can precipitate arrhythmias in a parturient. Understanding the disease process, mechanism for genesis of arrhythmia, avoidance of triggering factors for SVTs and knowing the prompt actions to be taken are very crucial for successful management of these patients.
Keywords: anesthesia, management, parturient, supraventricular tachycardia, WPW syndrome

Reference: