EFFECT OF INTRAVENOUS ONDANSETRON ON MATERNAL HEMODYNAMICS DURING ELECTIC CAESAREAN SECTION UNDER SUBARACHNOID BLOCK

Dr Mirley Rupinder Singh, Dr Namrata, Dr Ankita Attri,
Department of Anaesthesiology, DMCH, Ludhiana, India

BACKGROUND & AIMS

• Bezold Jarisch Reflex (BJR) is considered to contribute to Subarachnoid Block (SAB) induced hypotension and bradycardia and is mediated by serotonin receptors (5-HT₃ subtype).*

• Ondansetron, a 5-HT₃ receptor antagonist is assumed to block the effect of serotonin and inhibit BJR. The aim was to study the effect of intravenous ondansetron on maternal hemodynamics.

MATERIAL & METHODS

• Study was conducted on 150 healthy parturients scheduled for elective caesarean section under SAB who were randomly allocated into two groups of 75 each to receive either 4 mg ondansetron or 0.9% normal saline 10 minutes before initiation of SAB.

• Haemodynamic parameters (Heart rate, Systolic Blood Pressure, Diastolic Blood Pressure, Mean Blood Pressure) were studied from time of administration of the study drug upto the time of delivery of baby.

RESULTS

✓ Both the groups were comparable to each other with respect to baseline haemodynamic parameters.

✓ SAB induced fall in systolic (SBP), diastolic (DBP) and mean arterial pressures (MAP) was significantly less in the ondansetron group as compared to placebo from the time of initiation of SAB upto 12 minutes of surgery time ($p < 0.05$).

✓ However, the difference in heart rate between both groups was not statistically significant.

✓ Total use of vasopressors was significantly low in ondansetron group as compared to placebo ($p < 0.05$).

✓ Also, better neonatal outcomes were observed in the ondansetron group in terms of APGAR score at 1 minute of life.

Figure 1 : Trends in mean arterial pressure.

Figure 2 : Trends in mean systolic blood pressure.

Figure 3: Trends in mean diastolic blood pressure.

Figure 4: Total use of Phenylephrine(mcg).

CONCLUSION

Intravenous ondansetron premedication can successfully attenuate SAB induced fall in SBP, DBP and MAP in parturients undergoing elective caesarean sections.

*Terkawi AS, Tiourine M, Mehta SH, Hackworth JM, Tsang S, Durieux ME, et al. Ondansetron does not attenuate hemodynamic changes in patients undergoing elective cesarean delivery using subarachnoid anesthesia: A double-blind, placebo controlled, randomized trial. Reg Anesth Pain Med. 2015;40(4):344-8.