

**COMPARISON OF THE ADEQUACY OF UTERINE TONE WITH
LOW DOSE OXYTOCIN INFUSION
VERSUS
LOW DOSE OXYTOCIN BOLUS ALONG WITH THE INFUSION
DURING ELECTIVE CAESAREAN SECTION
A PROSPECTIVE, RANDOMISED, DOUBLE BLIND STUDY**

BY

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ABSTRACT

Background

Despite the routine administration of oxytocin as an uterotonic drug in the caesarean deliveries, there is no fixed protocol or guidelines about the dosage of the oxytocin to provide adequate uterine tone and minimize the blood loss while maintaining the haemodynamic stability of the parturients.

Aims and objectives

The aim of the study was to compare the efficacy of continuous infusion of oxytocin (5 IU/hr) and continuous infusion of oxytocin with additional fixed small bolus doses of oxytocin (0.5 IU) given at specific time in providing adequate uterine tone for the prevention and control of postpartum haemorrhage in elective caesarean section.

Alternatively, the aim was to compare the haemodynamic changes associated with the bolus and the infusion group.

Materials and methods

Sixty parturients undergoing elective caesarean section, under spinal anaesthesia, were randomised into two study groups, Group I (oxytocin infusion of 5 IU/hr with placebo bolus of normal saline) and Group BI (oxytocin bolus of 0.5 IU along with the oxytocin infusion).

Oxytocin infusion was started at the rate of 5 IU/hr in both the groups and placebo (normal saline) and oxytocin boluses were administered in the Groups I and BI respectively, immediately after the clamping and cutting of the umbilical cord.

The uterine tone was assessed by a blinded obstetrician and scored according to the 'five point scale' between 1 to 5 (1=atonic uterus and 5= very well contracted uterus) at the 2nd, 3rd, 5th, 8th, 10th, 15th and 20th minute and the placebo and oxytocin boluses

were administered in the Groups I and BI respectively in case of inadequacy of the uterine tone (score < 3) at the specific point of time.

The heart rate, blood pressure (SBP, DBP and MAP), estimated blood loss, nausea, vomiting, requirement of additional antiemetic and additional uterotonic drug were recorded.

Results

The proportion of the parturients in which adequate uterine tone was achieved at 2 minute was greater (94 % vs 80%) and mean uterine tone (3.13 vs 2.73, P=0.023) was higher in the Group BI than in the Group I .The blood loss in the Group I was higher (599.67 vs 492.67 mL, P=0.0005) and the fall in the haemoglobin was greater (P = 0.031) than in Group BI. The blood pressure was comparable in both the groups and the heart rate was higher in the Group BI at 15th and 20th minute (P = 0.0147 and 0.0123). The requirement of the additional uterotonic (4 vs 0) was higher in the Group I whereas nausea, vomiting and requirement of the additional antiemetic were higher in the Group BI (4 vs 1).

Conclusion

Oxytocin bolus of 0.5 IU with oxytocin infusion of 5 IU/hr provides better adequacy of uterine tone, lesser blood loss, lesser fall in the haemoglobin, lesser requirement of additional uterotonic, similar changes in blood pressure and comparative increase in tachycardia, nausea and requirement of the additional antiemetic when compared to the administration of oxytocin infusion of 5 IU/hr with placebo bolus of saline.

Keywords – Caesarean section, Oxytocin, Infusion, Bolus, Uterine tone.