ORIGINAL ARTICLE

Compare the Frequency of Epigastric Pain after Intravenous Infusion Versus Intravenous Bolus Administration of Oxytocin in C- Section

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ABSTRACT

Aim: To compare the frequency of epigastric pain after intravenous infusion versus intravenous bolus administration of oxytocin in cesarean section.
Study design: Prospective, case control
Place and duration of study: Department of Anaesthesia, Shalamar Medical & Dental College Lahore from 1st April 2020 to 30th September 2020.
Methodology: Total 120 patients were included in this study. Patients detailed demographics age, BMI and parity were recorded after taking written consent. Patients were aged between 18-40 years of age. Patients were divided into two equal groups I and II. Group I received Intravenous infusion and group II received I/V bolus.
Results: Mean age of the patients in group I was 25.59±8.95 years with mean BMI 26.15±7.14 kg/m^2 and mean age in group II was 26.18±2.77 years with mean BMI 26.15±7.18 kg/m^2. Epigastric pain was observed higher 29 (48.33%) in bolus group II as compared to infusion 15 (25%) group I.
Conclusion: The frequency of epigastric pain was higher among intravenous bolus group as compared to infusion of an equivalent dose of oxytocin.
Keywords: Epigastric pain, Intravenous infusion, Intravenous bolus

INTRODUCTION

Oxytocin is the uterotonic agent in obstetrical applications most widely used. It is administered in a regular manner both after usual and surgical care, with the goal of initiating and sustaining adequate uterine contractility to minimize blood loss and prevent postpartum hemorrhage.[1] During caesarean delivery, multiple oxytocin registries have been tested with variable (uterotonic) and adverse (cardiovascular) effects.[2–5] Larger oxytocin doses are known to cause a number of adverse reactions including: hypotension, nausea, vomiting, chest pain, headache, flushing, myocardial ischemia, ST-T section changes, lung edema, extreme water poisoning and convulsions.[6]

There is general consensus that constructive management of the third phase of labour, not the planned management, is advised at the time of delivery.[7,8] The third stage of work is described as the time after delivery and ends with placenta delivery. Although oxytocin is the most commonly known uterotonic agent, other medications are however available, but the agent is far from clear for prophylactic use.[9]

As is eventually stated, oxytocin is typically prescribed in caesarean section delivery so that the blood level is decreased and serious postpartum haemorrhage is avoided after delivery with and sustaining appropriate uterine contractions. Adverse effects of oxytocin, including hypotension, tachycardia and ECG shifts, can occur following the administration of the patient's hemodynamics.[10]Because less doses of oxytocin decrease the risk of side effects, the risk is decreased by using limited oxytocin, which maintains the uterus sound.

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MATERIALS AND METHODS

This prospective/case control study was conducted at Department of Anaesthesia, Shalamar Medical & Dental College Lahore from 1st April 2020 to 30th September 2020 and comprised of 120 patients. After taking written consent, detailed demographics including age, BMI and parity were recorded. Patients who had diabetes mellitus, hypertension, pre-eclampsia and multiple gestations were excluded from this study. Patients were equally divided (n=60) in two equal groups. Patients were aged between 18-40 years of age. Group I have obtained 5 IU of oxytocin in infusion for 5 minutes and group II 5 IU of oxytocin in dilute 5 mL of saline, as a 5 sec bolus. Infusion was dissolved using a syringe pump and 5 IU oxytocin was dissolved in a regular saline of 15ml.Frequency of epigastric pain was recorded among both groups. Complete data was analyzed by SPSS 24.0 version.

RESULTS

Mean age of the patients in group I was 25.59±8.95 years with mean BMI 26.15±7.14 kg/m^2 and mean age in group II was 26.18±2.77 years with mean BMI 26.15±7.18 kg/m^2. Mean diastolic blood pressure was 82.41±6.67 in group I and 82.43±8.58. In group I, 22(36.7%) were primigravida and 38(63.3%) were multigravida. Eighteen (30%) were primigravida and 42(70%) were multigravida in group II (Table 1). Epigastric pain was observed higher in bolus group as compared to infusion group. In group I, epigastric pain was found in 15(25%) patients and in group II, 29(48.33%) patients found (Table 2).

Table 1: Baseline detailed demographics of patients

Variable	Group I	Group II
Mean age (years)	25.59±8.95	26.18±2.77
Mean BMI (kg/m^2)	26.15±7.14	26.15±7.18
Mean diastolic pressure (mmHg)	82.41±6.67	82.43±8.58
Parity		
Primigravida	22 (36.7%)	18 (30%)
Multigravida	38 (63.3%)	42 (70%)

Table 2: Frequency of epigastric pain among both groups

Epigastric pain	Yes	No
Group I	15 (25%)	45 (75%)
Group II	29 (48.33%)	31 (51.63%)

DISCUSSION

The lower segment cesarean section (LSCS) is the most common obstetrical operation conducted mainly by spinal anaesthesia.[11] Lower segment cesarean section parturient are at greater risk of postpartum haemorrhage (PPH). Postpartum haemorrhageis one of the leading mother mortality factors. Its effects vary from spontaneous to surgery up to about 10% of all deliveries. The uterotonic occurrence of PPH can be reduced by approximately 40 percent by using oxytocin.[13]While widespread usage of the data is restricted in order to provide recommendations for optimum dosing of the oxytocin in patients receiving optional CD.

In the present study, the mean age of the patients in group I was 25.59±8.95 years with mean BMI 26.15±7.14 kg/m^2 and mean age in group II was 26.18±2.77 years with mean BMI 26.15±7.18 kg/m^2. These were comparable to the previous studies.[14,15]Epigastric pain was measured among both groups. In group I (intravenous infusion) 15 (25%) patients showed epigastric pain while in group II epigastric pain was recorded among 29 (48.33%) patients. Bhattacharya et al[16] and Larciprete et al[17]and are comparable results with the present study.

The goal is to minimize the risk of and the complications of cardio-vascular oxytocin in women who suffer from the cesarean section (techycardia, dyspneal blood pressure and cardiac output reduction), while retaining the benefits of oxytocin for the post-party bleeding Thomas et al[10] carried out a study to investigate the effects of bolus and intravenous oxytocin injections in patients with cesarean section. In their study, thirty women underwent electives. Finally, it was proposed that 5 units in bolus form should be used with caution when compared with slow injections with the same amount of oxytocin, while verifying 5 units with the right dose of oxytocin[18]. Minehart et al[19] used similar caesarean delivery cases, indicated that anesthesiologists have used advocacy rather than inquiry and asked for general knowledge, and also the obstetrical plaque. The investigation of time pressure and high-stakes patient care is especially relevant in the perioperative setting. 13.9 per cent absolute reduction of risk of ST depression with the lower dose was observed in randomized oxytocin research 10 versus 5 IU in safe patients seeking elective cesarean delivery.[20]It is also anticipated that additional alternative uterotonic agents and therapies will be needed in women at high risk for uterine atonement or postpartum haemorrhage. In this study, we find that the intravenous bolus of an equal dose of oxytocin is correlated with lower frequency in elective LSCS of epigastric pain.

CONCLUSION

The frequency of epigastric pain was higher among intravenous bolus group as compared to infusion of an equivalent dose of oxytocin.

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