Abstract

Introduction

Oxytocin is recommended during elective caesarean section as a bolus to reduce uterine atony and prevent postpartum haemorrhage. Intravenous use of oxytocin bolus is associated with hameodynamic side effects and is occasionally, insufficient by itself alone to maintain uterine tone following delivery. Due to free accessibility of the uterus at the time of Caesarean section intramyometrial oxytocin may be an effective alternative, to intravenous oxytocin with minimal side effects due to its more localized action. Limited studies have been conducted on this regard and available studies show conflicting results on its effectiveness.

Objective

To assess the effectiveness of prophylactic intramyometrial oxytocin and intravenous oxytocin at the time of Caesarean section in terms of blood loss, contractility and side effects.

Methods

A double blind randomized control clinical trial was conducted at Teaching Hospital Kandy. Sixty five mothers with singleton pregnancies >37 weeks of gestational age undergoing elective Caesarean section under spinal anasthesia were randomized to intramyometrial oxytocin (IMO) (n=33) and intravenous oxytocin (IVO) (n=32). Oxytocin 5IU was administered by either route before umbilical cord clamping at the time of delivery. Blood loss was assessed using gravimetric methods and allowable blood loss calculation. Uterine tone was assessed by the surgeon and a score of 1 to 5 given at 2,5,10 and 15 minutes following drug administration. Hameodynamic parameters and occurrence of side effects were recorded. Pre operative and post operative haemoglobin and haematocrit was checked.

Results

In both groups majority were in the age group of 31- 35 years with a median gestation of 39 weeks. Blood loss was similar between the two groups with a blood loss of 267.65 (±93.53)ml in the IMO group and303.83 (±103.77)ml in the IVO group (p= 0.43). The uterine contraction was similar between the two groups at 2 minutes and 5minutes, but significantly higher in the IMO group at 10 minutes and 15 minutes. There was no difference in the need for additional uterotonic agents or occurrence of side effects between the two groups. Both routes of administration resulted in similar haemodynamic changes, with the increase in heart rate highest at 5 minutes in both groups. The decrease in systolic and diastolic blood pressures were highest at 5 minutes following administration by either route, with a less decrease in diastolic blood pressure by the intramyometrial route at 5 minutes.

Conclusion

IMO oxytocin was similarly effective as IVO, in terms of blood loss and hameodynamic changes. Despite IMO causing stronger uterine contractions from 10 minutes onwards following administration, it did not result in lesser blood loss compared to IVO. Further studies on the effectiveness of intramyometrial oxytocin in specific subgroups and the optimum technique of administration are recommended to establish if IMO has a place in routine clinical practice.