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Comparison between carbetocin , Oxytocin and Misoprostol on Prevention of Post Partum Hemorrhage

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the first teacher in my life

To *a very effective factor in my life*

to my precious ***family***

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List of Abbreviations

B.HCG	Beta human chorionic gonadotropin
C	Celsium
CNS	Central nervous system
CS	Ceserian section
IM	Intramuscular
iu	International unit
IV	Intravenous
gm	Gram
hr	Hour
HB	Hemoglobin
HCT	Hematocrite
mg	Milligram
min	Minute
ml	Milliliter
mw	Molecular weight
mcg	Microgram
NVD	Normal vaginal delivery
PPH	Post partum hemorrhage
PGE2	Prostaglandin E2
PGI2	Prostaglandin I2
PGF2A	Prostaglandin F2 alpha
SD	Standard deviation
Sig.	Significance
VBAC	Vaginal birth after ceserian
ug	Microgram
WHO	World health organization

Introduction

Introduction

Post partum hemorrhage means excessive uterine blood loss associated with vaginal delivery or ceserian section .The amount of blood loss is greater than 500 ml. during vaginal delivery & 1000 ml. during ceserian section or the amount that adversely affects the maternal physiology such as blood pressure & hematocrite value .It can be classified into immediate post partum hemorrhage (within 1st 24 hrs after birth) and delayed post partum hemorrhage (after 24 hrs of delivery). ***(Brien et al., 1998)***.

Post partum hemorrhage (PPH) is the leading cause of maternal morbidity and mortality worldwide, the number of maternal deaths due to PPH is estimated to exceed 100,000 each year .***(Mousa et al., 2004)***

Carbetocin appears to be an effective new drug in prevention of post partum hemorrhage especially in cases undergoing ceserian section & women with high risk of post partum hemorrhage .Carbetocin must not be used in many cases as allergy to Carbetocin , hepatic , renal diseases, pre-eclampsia, eclampsia, heart diseases and epilepsy ***(Rodeck 2009)***.

Oxytocin is a nona peptide hormone released from neurohypophysis (posterior pituitary gland). Oxytocin acts on smooth muscle cells causing uterine contraction & milk ejection .Routine use of 10 iu of intravenous oxytocin administration with saline solution has a great role in prevention of post partum hemorrhage .***(Balki et al., 2006)***

Misoprostole is a prostaglandine which be effective in prevention of post partum hemorrhage. It is given orally , rectally or vaginally. It doesn't require refrigeration & has few side effects. Further research is planned , if misoprostole is found to be acceptable alternative to other oxytocic agents. It is better than oxytocin as oxytocics are not always used in the developing countries due to storage problems, mode of administration & associated side effects ***(Jordon 2008).***

Aim of Work

To make a comparison between the effect of carbetocin , oxytocin and misoprostole in the prevention of postpartum hemorrhage .

Review of Literature

Post Partum Hemorrhage

Postpartum hemorrhage is best defined and diagnosed clinically as excessive bleeding that makes the patient symptomatic, and/or results in signs of hypovolemia (eg, hypotension, tachycardia, oliguria, low oxygen saturation [<95 percent]. ***(Prata, 2010)***

Classified as:

- Primary
- Secondary.

Primary post partum hemorrhage occurs within the first 24 hours after delivery, and secondary post partum hemorrhage occurs between 24 hours and 6-12 weeks postpartum. ***(ACOG Practice Bulletin, 2006).***

I-Primary postpartum hemorrhage:

In addition to the patient's general condition, bleeding from the genital tract of 500 ml or more in the first 24 hours following the delivery of the baby is considered a sign of primary post partum hemorrhage. Alternative cut-off levels of 600 ml, 1000 ml, 1500 ml, and a substantial fall in the hematocrit or the need for blood transfusion have also been suggested. Under estimation of blood loss following delivery is a common problem. The diagnosis is usually made subjectively and many cases remain undetected. Primary post partum hemorrhage with a loss greater than 1000 ml occurs in one to five per cent of vaginal deliveries in high- income countries. ***(*Mousa and Alfirevic*, 2007).***

The incidence of primary post partum hemorrhage is 3.2% ***(Bang et al., 2004).*** The world health organization (WHO) estimates that nearly more than half million women die from complications of pregnancy and childbirth every year, 25% are due to severe bleeding of any cause occurring in the postpartum period ***(WHO, 2007).***

Postpartum hemorrhage and maternal mortality:

Postpartum hemorrhage occurs in approximately 4% of vaginal deliveries and estimates that it causes significant morbidity and 25% of all maternal childbirth related deaths ***(Karen et al., 2006).***

Egypt has improved but still has a relatively high maternal mortality ratio of 84 maternal deaths per 100.000 live births. Post partum hemorrhage is the leading factor contributing to 27% of maternal deaths, with poor obstetric management cited as the most frequent avoidable factor, contributing to 43% of maternal deaths ***(Khan et al., 2004).***

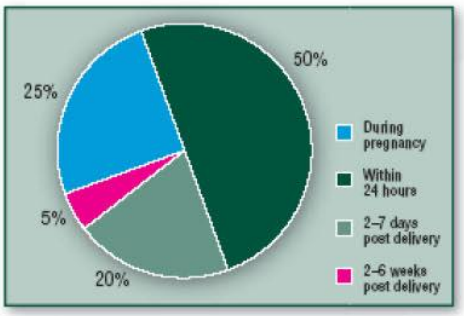

Figure 1. Timing of maternal deaths

Fig. 1 Timing of maternal deaths(ACOG , 1998)

The world Health Organization (WHO) has examined studies on post partum hemorrhage published between 1997 and 2002 to arrive at more precise definitions of post partum hemorrhage and estimates of its incidence, preliminary findings suggest that excessive bleeding was reported to have occurred in 0.84% to 19.80% of deliveries ***(WHO, 2007).***

Predisposing factors and causes of immediate post partum hemorrhage