

# Oral Versus Rectal Misoprostol in the Prevention of Primary Postpartum Hemorrhage

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## ABSTRACT

**Objective:** To compare the effectiveness of 600mcg oral misoprostol versus 600mcg rectal misoprostol in prevention of primary postpartum hemorrhage due to uterine atony

**Design:** Quasi experimental study.

**Place and duration of study:** The present study was conducted in services hospital Lahore between March 2011 and June 2011.

**Method:** A total number of 300 patients of the age of 18-40 were studied. These patients were randomly selected who admitted to labor room in the 3<sup>rd</sup> stage of labor. Patients were divided into two groups; group A (150 patients) and group B (150 patients). In both the groups, management of 3<sup>rd</sup> stage of labor was by active management with intravenous oxytocin 10 units' stat. Both groups were given 600mcg misoprostol orally and rectally consecutively.

**Results:** The mean age of group A (treated oral route) was 26.9 and mean age of group B (treated rectal route) was 26.3, In group A (treated oral route) 85/150(56.7%) patients had spontaneous vaginal delivery, 18/150(12%) patients delivered by outlet forceps, 29/150(19.3%) patients were delivered by ventouse while 18/150(12%) patients had breech delivery. In group B (treated rectal route) 87/150(58%) patients had spontaneous vaginal delivery, 30/150(20%) patients delivered by outlet forceps, 27/150(18%) patients were delivered by ventouse while 6/150(4%) patients had breech delivery. The amount of blood loss was also noted. In group A 27/150(18%) had 1/4<sup>th</sup> soaked pad, 74/150(49.3%) had 1/2 soaked pad and 49/150(32.7%) had full soaked pad. In group B 33/150(22%) had 1/4<sup>th</sup> soaked pad, 75/150(50%) had 1/2 soaked pad and 42/150(28%) had full soaked pad.

**Key words:** Primary postpartum hemorrhage, Misoprostol and third stage of labor.

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## INTRODUCTION

Post partum hemorrhage (PPH) is excessive bleeding from genital tract following delivery of the baby. It refers to blood loss greater than 500 ml during the third stage of labor following vaginal delivery and greater than 1000 ml following the caesarean section in the first 24 after delivery. The incidence of primary PPH has been estimated at 4-6% of all the pregnancies. PPH is a major cause of maternal morbidity and mortality both in developed and under developed countries. PPH is the most common cause of maternal death in Pakistan. The primary cause of PPH is the failure of uterus to contract, trauma to vaginal tract or retained placenta. Less common causes included placenta accreta, uterine inversion and coagulation disorder. It is very much uncommon for more than one of these causes to be present in the same women with PPH. The drugs used for prevention of primary PPH are oxytocin, ergometrin and prostaglandin. Their routine prophylactic use as a part of active management of 3<sup>rd</sup> stage of labor is effective in reducing the risk of PPH. Misoprostol is a methyl ester a synthetic analogue of natural prostaglandin E1 that stimulate the uterine

contraction rapidly and powerfully. It has excellent safety profile and relatively inexpensive. Oral and rectal misoprostol is effective in prevention of PPH and has fewer side effects like nausea, vomiting, diarrhea and fever. Misoprostol administered rectally is associated with reduction in adverse effect compared with oral route. The purpose of this study is to compare misoprostol through oral and rectal route in prevention of primary PPH due to uterine atony and side effects of both routes.

## MATERIAL AND METHOD

The present study was conducted in Services Hospital Lahore. It was a Quasi experimental study and sampling was done by non-probability convenience technique. Three hundred patients of 18-40 years of age were selected who admitted to labor room in the 3<sup>rd</sup> stage of labor. Patients were divided into two groups; group A (150 patients) and group B (150 patients). In both the groups, management of 3<sup>rd</sup> stage of labor was by active management with intravenous oxytocin 10 units' stat. Both groups were given 600mcg misoprostol half of them were given orally and half of them were given by rectal route. More than 28 weeks pregnant patients with cephalic or breech presentation were

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included in this study. Patients with the previous history of cesarean section and known allergy to misoprostol were excluded in this study. Patients were provided with standard sized pads and pads were examined after half an hour, for the 1<sup>st</sup> hour and than every hour. Bleeding was labeled as mild if 1/4<sup>th</sup> of the pad was soaked, moderate if 1/2 of the pad was soaked and sever if the pad was fully soaked.

## RESULTS

An experimental study was carried out in which 300 patients were divided into two groups. Group A of 150 patients in which patients were given 600mcg misoprostol orally and group B of 150 patients in which 600mcg misoprostol were given by rectal route. The mean age of group A was 26.9 and mean age of group B was 26.3, In group A 85/150(56.7%) patients had spontaneous vaginal delivery, 18/150(12%) patients delivered by outlet forceps, 29/150(19.3%) patients were delivered by ventouse while 18/150(12%) patients had breech delivery. In group B (treated rectal route) 87/150(58%) patients had spontaneous vaginal delivery, 30/150(20%) patients delivered by outlet forceps, 27/150(18%) patients were delivered by ventouse while 6/150(4%)

## DISCUSSION

Post partum hemorrhage (PPH) is excessive bleeding from genital tract following delivery of the baby. The incidence of primary PPH has been estimated at 4-6% of all the pregnancies. PPH is the most common cause of maternal death in Pakistan. In this study 300 patients were studied and to observe the effectiveness of 600mcg misoprostol in the prevention of postpartum hemorrhage and a comparison was made. Most of the patients of both groups (oral and rectal) in this study were more than 20 years of the age. In internationally published studies most of the cases were 35 years of age but in Pakistan the reason for the difference perhaps is due to early marriage in our country. It is similar to the recent study done in Ayub Teaching Hospital Abbottabad. Regarding the risks of the post partum hemorrhage, the results shows that no risk factor for the post partum hemorrhage was identified in 109 patients. This correlate with the guide lines as provided by Royal College. As concerned with the uterine contractility time the rectal route was more rapid as compared with the oral route. This fact is supported by a study published in 2005. the increased bioavailability of non oral route is thought to be due to avoidance of first pass hepatic circulation. In the present study onset of action of oral route misoprostol was slightly more rapid in first 5 minutes but with in 10-15 minutes, the uterine contractility was effectively achieved with rectal route.

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Age in years	Group A		Group B(	
	n=	%age	n=	%age
< 20	24	16.	30	20
20-30	79	52.7	75	50
31-40	40	26.7	36	24
> 40	7	4.7	9	6
Total patients	150	100	150	100
<b>Distribution of patients by mode of delivery</b>				
Mode of delivery	Group A		Group B	
Spontaneous vaginal	85	56.7	87	58
Outlet forceps	18	12.	30	20
Ventous	29	19.3	27	18
Breech	18	12	6	4
Total	150	100	150	100
<b>Distribution of patients by amount of blood loss</b>				
No. of pads soaked	Group A		Group B	
1/4th	27	18	33	22
1/2	74	49.3	75	50
Fully	49	32.7	42	28
Total	150	100	150	100

## CONCLUSION

It is concluded that rectal route of administration of misoprostol is as effective as oral route in prevention of post partum hemorrhage.

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