ORIGINAL ARTICLE

Frequency of Postpartum Haemorrhage in induced Versus Spontaneous Labour

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ABSTRACT

Aim: To determine the frequency of postpartum haemorrhage in induced versus spontaneous labour.

Methods: This cross sectional comparative study was conducted in Obstetrics and Gynaecology unit A at Lady Reading Hospital Peshawar from 7th August 2009 to 7th Feb. 2010. The analysis included data on 88 patients with term pregnancies, 44 patients had spontaneous onset of labour and 44 had induction of labour, frequency of postpartum haemorrhage (PPH) was noted in both. Informed consent from patient and approval from hospital ethical committee was taken.

Results: Eighty eight patients with term singleton pregnancy were enrolled. Analysis of 44 patients with spontaneous onset of labour 3(6.81%) patients had PPH in which 6(13%) patients were operated by instrumental deliveries, 3(6.81%) patients had caesarean section and 35(79.54%) patients had normal vaginal deliveries. Where as in a total of 44 patients with induction of labour 5(11.36%) patients had PPH, 9(20.45%) patients were operated by instrumental deliveries, 7(15.90%) patients had caesarean section and 27(63.63%) patients had normal vaginal deliveries. Frequency of PPH was more in patients with induced labour as compared to spontaneous labour. Method of induction was also considered and it was found that PPH is more in labour induced with oxytocin as compared to prostaglandins.

Conclusion: Frequency of PPH increases with induction of labour. Therefore induction of labour shall only be resorted to the cases where it is utmost necessary. If proceeding with induction of labour, prostaglandin are safer as compared to oxytocin and artificial rupture of membranes.

Keywords: Postpartum hemorrhage, uterine atony, induction of labour

INTRODUCTION

Postpartum haemorrhage (PPH) is the most serious and potentially lethal complication of both vaginal and caesarean delivery .PPH is defined as blood loss of greater than 500ml in vaginal delivery & 1000ml in caesarean delivery**.** If it occurs within 24 hour of delivery, it is termed as primary PPH. If it occurs after 24 hours and within 6 weeks of delivery, it is termed as secondary PPH[1,2,3]. Maternal death from childbirth represents one of the greatest inequities in global health. PPH is leading direct cause of maternal morbidity and mortality being responsible for 27.2% of maternal mortality in pakistan[4], which necessities going deep into its causes and remedial measures. The exact incidence of PPH is difficult to ascertain however, estimates suggest that PPH complicates 4% to 6% of all deliveries[5]. PPH is major concern in our country because in our society majority of women are deprived of basic health facilities, and anemia, high parity, home deliveries, delayed referrals is very common, these women are unable to cope up with excessive and rapid blood loss and it leads to shock and death if not treated immediately. So measures should be taken to prevent it and to minimize iatrogenic risk factors.

One of the iatrogenic risk factor for PPH is induction of labour about 20% of pregnant women will have labour induced for a variety of reasons. There is almost two fold increase in rate of induction of labour in last decade, it is commonly done for postdate pregnancy, preterm rupture of membranes, pregnancy with diabetes and there is increase trend towards elective induction on maternal request.[6,7] Common methods of induction are artificial rupture of membranes (ARM), oxytocin and with prostaglandins[6,8,9].

The purpose of my study is to see that whether frequency of postpartum is more in induced labour as compared to spontaneous labour. So when induction of labour is planned its benefits should overweigh the risk associated with it, it should be well justified and unnecessary induction should be avoided.

PATIENTS AND METHODS

This cross sectional comparative study was conducted in Obstetrics and Gynaecology Unit 'A' at Lady Reading Hospital Peshawar in six months duration (from 7th August 2009 to 7th February 2010).sample size was 88,(choosing to calculate sample size from WHO sample size calculation),

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patients were inducted by Non Probability convenience sampling. They were admitted through emergency and OPD. Only those patients were recruited who delivered in Gynae 'A' unit LRH, age between 18-40 years and parity less than six. While Patients referred from different hospitals with PPH, patients with bleeding disorder such as disseminated intravascular coagulopathy, Aplastic anemia, thrombocytopenia, and patients with multiple pregnancies were not included in study. After formal informal written consent, patients fulfilling the inclusion criteria were enrolled in study, brief obstetrical history, mode of onset of labour that is spontaneous or induced, mode of induction of labour and frequency of PPH was noted. Basic data was collection on Performa. The study was submitted to hospital ethical committee for approval. 44 patients were recruited who had spontaneous onset of labour and 44 patients with induced labour either with ARM, oxytocin or prostaglandin E2. Frequency of PPH was observed in both groups.

RESULTS

Analysis of 88 women was done in this study, out of them 44 had spontaneous onset of labour and 44 had labour induced. Parity was considered separately in two groups of spontaneous and induced labour. It was observed that among primiparous women frequency of PPH was more in patients with induced labour 2(15.38%) as compared to patients with spontaneous labour 2(8.33%), mode of delivery was also observed (Table 1). Among multigravida frequency of PPH was more in induced group 3(16.66%) as compared to 1(3.03%) in patients with spontaneous labour (Table 2). In my study frequency of PPH is more in primiparous women 4(10.81%) as compared to multiparous women 4(7.84%). Frequency of PPH was observed with each method of induction i.e. ARM, oxytocin and Prostaglandin E2 among 44 women with induction of labour. It was observed that frequency of PPH was highest in women induced with oxytocin 14(14.28%) as compared to other two methods (Table 3). Overall analysis of spontaneous versus induced labour shows that frequency of PPH is more in induced labour 5(11.36%) as compared to spontaneous labour3(6.81%) (Table 4).

Table 3: Method of induction and percentage of PPH

Method of induction	n	%age
ARM	8	12.50
Oxytocin	14	14.28
Prostaglandin	22	9.09

Table 1: Analysis of primiparous patients (n = 88)

Labour	No. of cases	Postpartum haemorrhage		Assisted deliveries		Caesarean section		Normal vaginal deliveries	
		No.	%	No.	%	No.	%	No.	%
Spontaneous	24/44	2	8.33	2	8.33	1	4.16	21	87.50
Induced	13/44	2	15.38	3	23.07	3	23.07	7	53.84
Total	37/44	4	10.81	5	5.68	4	4.54	27	30.68

Chi Square Test was applied in which P value = 0.00

Table 2: Analysis of multigravida patients (n = 88)

Labour	No. of cases	Postpartum haemorrhage		Assisted deliveries		Caesarean section		Normal vaginal deliveries	
		No.	%	No.	%	No.	%	No.	%
Spontaneous	33	1	3.03	4	12.12	2	6.06	27	81.81
Induced	18	3	16.66	6	33.33	4	22.22	8	44.44
Total	51	4	7.84	10	19.60	6	11.76	35	68.62

Chi Square Test was applied in which P value = 0.00

Table 4: Over all analysis of 88 deliveries (n = 88)

Labour	No. of cases	Postpartum haemorrhage		Instrumental deliveries		Caesarean section		Spontaneous vaginal deliveries	
		No.	%	No.	%	No.	%	No.	%
Spontaneous	44	3	6.81	6	13.0	3	6.81	35	79.54
Induced	44	4	11.36	9	20.45	7	15.90	28	63.63
Total	88	8	9.09	15	17.04	10	11.36	63	71.59

Chi Square Test was applied in which P value = 0.00

DISCUSSION

Post-partum haemorrhage is still leading cause of maternal mortality in Pakistan, and every step should be taken to reduce it. In this study overall frequency of PPH was 8%, another study in Pakistan shows almost similar frequency of PPH i.e. 7%[10]. This is comparable to global literature where it is quoted as 5 to 8%.[11] In this study the frequency of PPH was analyzed separately in primiparous and multiparous women. It is noted that frequency of PPH was more in primiparous women 2(10.8%) as compared to multiparous women 2(7.81%), in another study the incidence of postpartum haemorrhage was 6% in primigravida and 2% in multigravida.[12] One of the reason for this is that first labour is much longer than any subsequent labour. The chances of PPH increases with increase duration of labour, most common sequel of prolong labour is atonic uterus[13].

Among primiparous women the frequency of PPH was more in those who had induction of labour 15.38% as compared to the group in whom there was spontaneous onset of labour 8.33%, another study showed comparable results in which among primiparous women PPH was noted in 12.4% of patients with induced labour as compared to 7.6% cases of spontaneous labour.[8] More over in this study P value 0.00 also shows that the correlation of primiparous in spontaneous and induced deliveries is highly significant.

Evaluation of multiparous showed that frequency of PPH is more in induced group 16.66% as compared to patients with spontaneous onset of labour 3.03%.This study shows that in multigravida induction of labour should be done very consciously as there is increase risk of PPH, another study showed that in multigravida induction of labour is associated with increased frequency of PPH as compared to spontaneous labour.[8] P value 0.00 also shows that the correlation of multigravida in spontaneous and induced deliveries is highly significant.

Analysis of this study regarding mode of delivery in both groups showed that there were more normal vaginal deliveries in group with spontaneous onset of labour as compared to induced labour group where as assisted deliveries (using vacuum or forceps) and caesarean section were more in induced group. A study conducted in India also compared mode of delivery in induced versus spontaneous labour, it showed that in women with spontaneous labour 5% had assisted delivery, 5% had caesarean section and 90% delivered normally while in patients with induced labour 5% had assisted delivery, 7.5% had caesarean section while 87% had normal vaginal delivery[10].

Hence my study concludes that frequency of PPH increases with induction of labour, regarding method of induction PPH is more in patients induced with oxytocin as compared to other methods, similar results are shown in study conducted by Brinsden and Clark[8], oxytocin makes the uterus work much harder than usual, after the delivery of baby the uterus may become atonic. Because of the continuous exposure of the uterus to oxytocin for prolonged period, it will respond poorly to the bolus dose of intramuscular and intravenous oxytocin in third stage of labour leading to PPH[8]. The use of PGE2 merits consideration over the use of oxytocin considering that PPH was found in only 9.09% as compared to 14.28% with oxytocin.

CONCLUSION

Postpartum haemorrhage is another complication of induced labour, it needs to be taken into account when induction is being considered. Frequency of PPH increases with induction of labour .Therefore induction of labour shall only be resorted to the cases where it is utmost necessary. If induction of labour is needed then prostaglandin are safer compared to oxytocin and artificial rupture of membranes.

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