

Retained Placenta: An obstetric emergency and cause of reproductive morbidity

Sajida Habib, Farhat R. Malik, Naila Nasr Malik

Departments of Gynecology & Obstetrics Khyber Teaching Hospital and Community Health Sciences, Kuwait Teaching Hospital, Peshawar and Riphah International University, Islamabad, Pakistan

Objectives: To determine the frequency, causes of retained placenta, its association with age and suggest preventive strategies

Methodology: This cross sectional study was conducted at Gynecology & Obstetrics unit of Khyber Teaching Hospital, Peshawar, Pakistan. One hundred and thirty female patients of 20- 40 years with post partum hemorrhage being delivered at labor room as booked patients were enrolled in the study through consecutive sampling technique. Demographic and clinical data were recorded. SPSS version 11 was used for statistical analysis.

Results: Out of 130 patients, 13% (n= 17) belonged to 25-30, 27% (n= 35) in 31-35 and 60% (n=78) in 30-40 years age group. Mean age was 32 ± 1.23 years. Frequency of retained placenta with post partum hemorrhage was 70% (n=91). Association of retained placenta with age distribution was found to be significant (0.002).

Conclusion: Retained placenta is a frequent cause of maternal morbidity. (Rawal Med J 201;43:276-279).

Key Words: Retained placenta, post partum hemorrhage, premature birth.

INTRODUCTION

Postpartum hemorrhage (PPH) being a leading cause of maternal mortality accounts for 5.6% deaths.¹ Global maternal mortality estimates to be 599.00 deaths per year with ratio of 400 maternal deaths per 10,000 live births.² It accounts for one quarter of all maternal deaths i.e about 25%, especially in developing countries.³ The incidence of PPH for vaginal is 3.91% and 6.4% for cesarean deliveries.⁴ The true incidence may be under estimated by up to 30 to 50% due to difficulties in accurately measuring the true blood loss.

Primary PPH is defined by WHO technical group as bleeding in excess of 500ml in first 24 hours after delivery.⁵ Uterine atony is the most frequent cause and trauma to the uterus, cervix and vagina^{6,7} and trauma to genital tract being 10% of cases.⁷ The risk factors for cervical and vaginal tears in cases of primary PPH are nulliparity (12%),⁷ precipitous labor (18.2%),⁸ fetal macrosomia (26%),⁹ cervical cerclage (14%),¹⁰ vacuum vaginal deliveries (18.7%), forceps deliveries (15.9%) and induction of labor (68.7%).¹¹

Hemorrhage was the third highest cause of maternal

death (6.6 deaths/million Live births) in a report from UK.¹² Primary PPH without signs of shock should be closely monitored, grouped and screened.¹³ Accurate global data does not exist but likely enough that the numbers are significant with co-morbidities and a poorly maternity infra structures.¹⁴ Cervical lacerations occur in more than half of the vaginal deliveries.¹⁵ Persistent heavy bleeding in the presence of a firmly contracted uterus in PPH, suspicion goes to laceration of cervix; lower uterine segment or vagina along with genital trauma but its full extent is underestimated.¹⁶ Here in our province data regarding PPH and retained placenta is scarce, so present study was undertaken to have baseline data regarding this important issue along with association with factors like age and suggest preventive remedies for it.

METHODOLOGY

This cross sectional study was conducted at Gynecology & Obstetric ward of Khyber Teaching Hospital, Peshawar, Pakistan for a period of six months after approval from the institutional review board and Ethical considerations were duly taken

care of. Sample size was determined using 11.4% prevalence⁷ with 5.5% as margin of error and 95% confidence interval through WHO software. One hundred and thirty female patients of 20-40 years who presented with PPH after normal vaginal delivery in the hospital's labor room were included in the study through consecutive sampling technique. Patients who had primary PPH due to causes other than retained placenta like abnormally adherent placenta (accrete, increta or percreta) diagnosed on ultrasound or any abnormality in uterus like fibroid or previous cesarean scar leading to morbid adherence of placenta, cervical or vaginal tears on clinical examination, bleeding disorders, history of anticoagulants and those delivered elsewhere were excluded to avoid confounding effect and bias in the study.

The demographic with clinical data such as name, age, time of placental delivery and PPH (small size kidney tray or slow per vaginal trickling soaking three or four sanitary pads in one hour) in normal vaginal delivery was recorded. Vaginal examination and laboratory investigations were used for the confirmation of diagnosis. All patients were managed by a single consultant obstetrician to control bias in the study. Chi square test was used for statistical analysis with cut off significance taken at $p < 0.05$ using SPSS version 11.

RESULTS

Total number of the vaginal deliveries conducted in the labor room during the study period was 130. Out of which 91 patients developed retained placenta with an incidence of 70% of the total admissions. The mean age of the patients was 32.19 ± 1.23 with mostly between 36 to 40 years. Most of the females were multipara, poor and illiterate. Deliveries conducted between 37-40 weeks gestation were 64.42% (Table 1). Among the study, 23.92% females had evacuation & curettage, retained placenta removed manually. History of menstrual regularities recorded in 19.63%, which were not significant with retained placenta. 1.84% had undergone cesarean after traumatic vaginal delivery and ended up having retained placenta while 96.93% of the patients had manual removal of retained placenta.

Table 1. Retained placenta Frequency and its association among age groups.

Age Groups \Rightarrow	25-30 years	31-35 years	36-40 years	Total	P value
Retained placenta \Downarrow	(n= 17) 13%	(n= 35) 27%	(n=78) 78%	(n= 130)	
Yes	8	27	56	91	0.002
No	9	8	22	39	

Blood transfusion was received by 124 females (76.06%). The causes of retained placenta were mostly due to morbid adhesion i.e 52.76%, 38.65% because of uterine inertia and 7.98% attributed to less expulsive efforts of the patients. Morbid adhesion main causative factor involved was placenta accreta contributing 96.51%. Hospital stay varied from 1-3 days. As the outcome, 98.77% improved while 1.23% patients died of irreversible shock.

DISCUSSION

Retained placenta accounts for 5-10% of PPH cases. According to our results, retained placenta was found in 70% of total admissions. The mean age of the participants was 32.19 ± 1.23 (range 36 to 40 years). Demographic factors showed that females were multipara, illiterate, belonging to low income group and of poor socio-economic status. According to the study results, the causes of retained placenta were morbid adhesion (52.76%), uterine inertia (38.65%) and 7.98% due to less expulsive efforts of the patients.

Major cause of morbid adhesion was placenta accrete (96.51%). Among total retained placenta cases 98.77% patients improved and 1.23% patients died of irreversible shock due to PPH. These findings are consistent with previous studies.^{6,7,17} A study reported an incidence of retained placenta of 23.54% in 601 retained placenta cases.² Retained placenta was found to be 2.90% of total admissions in another study.^{2,19} Incidence of home (92.8%) and hospital (2.86%) deliveries were reported in a study whereas this was 68.75% (home) and 31.25% (hospital deliveries) in another two studies.^{5,6} In present study, as all deliveries (130) were hospital based.

Menstrual regularities were reported in 19.63%, 17.79% had evacuation and curettage, 4.29% with

manual removal of retained placenta and 1.84% had undergone cesarean. Predisposing factors of retained placenta were found to be 23.92%. A study showed 32% recurrence of retained placenta however placenta accreta with a history of multiple retained products were responsible for recurrence.⁵ Past history of retained placenta was 16%⁶ with 16.9% having previous uterine surgery. Females with PPH and shock were 49.07% while 1.23% without shock.²⁰ A study showed 36.61% women in state of severe shock.

Complications of retained placenta were 4.29% as perineal tears, 3.68% with sepsis, 1.80% of uterine prolapsed and 1.23% of acute uterine inversion. Retained Placenta causes PPH and associated genital tract injury aggravates it further.⁷ This is mismanagement of labor in all stages by unskilled persons. 96.93% of the patients needed manual removal of placenta. This is inconsistent with the results of studies conducted by Chohan⁶ and Rizwan²⁰ in which incidence was 0.6% and 81.25%, respectively. These findings are inconsistent with present study results where incidence was 96.93%.

In this study, 124 (76.07%) patients received blood transfusion, which greatly differs from the findings of Bibi et al.²¹ It is due to the fact that pregnant women here suffer more from iron deficiency anemia. Need of blood was more than the amount transfused as patients were non affording and non availability of blood. Present study results varied with that of Chohan,⁶ as this study found retained placenta attribution to morbid adhesions as 52.76% and 37.5% for uterine inertia whereas Chohan reported 38.65% and 62.5%, respectively. Partial morbid adhesions (96.51%) were due to placenta accreta.

The American College of Obstetricians and Gynecologists claim that women who have undergone two or more cesarean deliveries with anterior or central placenta had nearly a 40% risk of developing placenta accrete.^{20,21} Another study⁷ showed this rate of placenta accreta as 98 per 1,000,000 deliveries. About 98.77% of the respondents improved and discharged but irreversible shock claimed 2 lives (1.23%). Mortality in the present study was not calculated as this being beyond the scope of the study. One of the study²² showed maternal death rate as 6.25%. These findings

do not correlate with the present study as maternal mortality was not calculated in this study.

Limitation of this study was that it was conducted in only one city of the province (Peshawar) and in only one of the main Tertiary Care Hospitals. Thus, the results cannot be generalized to the entire population. The study did not determine the morbidity and mortality ratios and rates.

CONCLUSION

This study showed that retained placenta was still common and responsible for maternal morbidity and mortality. Frequency of retained placenta was found to be 70% among 30-40 years age group being multipara, poor and illiterate. Uterine inertia and morbid adhesion with mismanagement of 3rd stage of labor were seen as a contributing factor leading to retained placenta and hemorrhage. This can be minimized with essential obstetric services packed health facilities through skilled and competent health personals confirming safe clean delivery and effective management of third stage of labour. Identification of the risk factors and properly conducted labor can reduce the frequency of retained placenta cases.

ACKNOWLEDGEMENT

We are grateful to the endless support rendered by Professor Dr. Anwar Sultana in conducting this study at Khyber Teaching Hospital. Thanks are due to the participating patients.

Author Contributions:

Conception and design: Sajida Habib

Collection and assembly of data: Sajida Habib, Naila Nasr Malik

Analysis and interpretation of the data: Farhat R. Malik, Sajida Habib

Drafting of the article: Farhat R. Malik

Critical revision of the article for important intellectual content:

Farhat R. Malik

Statistical expertise: Sajida Habib, Farhat R. Malik

Final approval and guarantor of the article: Sajida Habib

Corresponding author email: Dr. Farhat Rehana Malik; email ID; drfarhatmalik@gmail

Conflict of Interest: None declared

Rec. Date: Mar 18, 2017 Revision Rec. Date: Dec 2, 2017 Accept

Date: Jan 16, 2018

REFERENCES

1. Kahanum Z. Primary postpartum haemorrhage; effective treatment modalities at Lady Wilington Hospital, Lahore. *Ann King Edward Med Coll* 2005;11:17-9.
2. World Health Organization. *The World Health Report*

2005. Make every mother and child count [Online] [Cited 3rd December, 2016]. Available from; <http://www.who.int/whr/2005/eng>
3. Khan KS, Wojdyla D, Say L, Gulmezuglo AM, Van Look PF. WHO analysis of causes of maternal death: a systemic review. *Lancet* 2006;367:1066-74.
 4. Marovici I. Jumalul de chirurgie. *J Surg* 2005;1:383-9.
 5. Kaul V, Bagg R, Jain V, Gopalan S. The impact of primary post partum haemorrhage "in near-miss" morbidity and mortality in a tertiary care hospital in North India. *Indian J Med Sci* 2006;60:233-40.
 6. Chohan A. Third stage of labour and its complications. In: Chohan A, Editor. *Fundamentals of Obstetrics*. Lahore: 2005; 361-7.
 7. Zaman SB, Badar S, Sher-UZ-Zaman M, Tariq M. Risk factors of primary postpartum haemorrhage. *Professional Med J* 2007;14:278-81.
 8. Sheinera E, Levyb A, Mazora M. Precipitous labour: higher rates of maternal complications. *Ejog* 2004;116:43-7.
 9. Lim HJ, Tan BC, Jammal AE, Symonds EM. Delivery of macrosomic babies: management and outcome of 330 cases. *J Obstet Gynaecol* 2002;22:370-4.
 10. Melamed N, Ben-Haroush A, Chen R, Kaplan B, Yogev Y. Intrapartum cervical lacerations: characteristic, risk factors and effects on subsequent pregnancies. *Am J Obstet Gynecol* 2009;200:388-94.
 11. Parikh R, Brotzman S, Anasti JN. Cervical lacerations: some surprising facts. *Am J Obstet Gynecol* 2007;196:17-8.
 12. Brace V, Kernaghan D, Penney G. Learning from adverse clinical outcomes: major obstetric haemorrhage in Scotland, 2003-05. *BJOG* 2007;114:1388-96.
 13. Millward-Sdler. Why mothers die 2000-2002. The confidential enquiries into maternal deaths in the United Kingdom, London: Royal College of Obstetricians and Gynaecologists 2004:227-97.
 14. Parikh R, Brotzman S, Anasti JN. Cervical lacerations: some surprising facts. *Am J Obstet Gynecol* 2007;196:e17-8.
 15. Bruinse HW, Metz GCH, Kwee A. Surgical treatment of postpartum haemorrhage. *International Congress Series* 2005;370-5.
 16. Betty A. Daniss RM. Collaborative approach for the treatment of PPH. *The Swedish Association of Mid wives. FLASOG* 2005;2:45-78.
 17. Chirurgie MJ. Primary post partum haemorrhage *BMJ* 2005;1:383-9.
 18. World Health Organization [Online] [Cited 5th December, 2016] Available from; <http://www.who.int>
 19. Khan KS, Wojdyla D, Say L, Gulmezoglu AM, Van Look PF. WHO analysis of causes of maternal death: a systematic review. *Lancet* 2006;367(9516):1066-74.
 20. Rizwan N, Abbasi RM, Jatoi N. Retained placenta as a risk factor of PPH. *J Pak Med Assoc* 2009;59:812-4.
 21. Bibi S, Danish N, Fawad A, Jamil M. Post partum haemorrhage: Retained placenta. *J Ayub Med Coll Abbotabad* 2007;19:102-6.
 22. Sosa CG, Althabe F, Belizan JM, Buekens P. Retained placenta in PPH. *Obstet Gynecol* 2009;113:1313-9.
 23. Chhabra S, Dhorey M. Retained placenta continues to be fatal but frequency can be reduced. *J Obstet Gynaecol* 2002;22:630-3.