



To study the association of high risk factors and the postpartum hemorrhage at Tertiary Care Centre of Indore

Authors

Dr Neeti Gupta¹, Dr Sujata Baroniya²

¹Asst. Prof., Dept. of Obstetrics & Gynecology, Index Medical College, Hospital and Research Centre, Indore

²Junior Resident, Dept. of Obstetrics & Gynecology, Sri Aurobindo Medical College and Post Graduate Institute, Indore

Corresponding Author

Dr Sujata Baroniya

Abstract

Postpartum haemorrhage (PPH) is a potentially life-threatening event. In the majority of cases, relatively simple methods are used to avert a disaster, although these are not always employed.^[1] Uterine tamponade using intrauterine balloons appears to be an effective tool in the management of PPH. Overall, from the case reports, retrospective^[2,3,4] and prospective studies^[5,6] 97/106(91.5%) cases were successful when the various balloons have been used. Given that the technology is simple to deploy and with minimal adverse effects, a balloon tamponade method should become a familiar component of existing guidelines for the management of PPH, although not as an isolated form of therapy. It is hoped that this review paper increases the awareness of the various tamponade balloons and contributes to an evidence-based appraisal of its place in the management of PPH.

Keywords: Postpartum Hemorrhage, High Risk & Association.

Introduction

Postpartum bleeding or postpartum hemorrhage (PPH) is often defined as the loss of more than 500 ml or 1,000 ml of blood within the first 24 hours following childbirth.^[7] Some have added the requirement that there also be signs or symptoms of low blood volume for the condition to exist.^[8] Signs and symptoms may initially include: an increased heart rate, feeling faint upon standing, and an increased breath rate.^[9] As more blood is lost the women may feel cold, their blood pressure may drop, and they may become restless

or unconscious.^[9] The condition can occur up to six weeks following delivery.^[8]

The most common cause is poor contraction of the uterus following childbirth.^[7] Not all of the placenta being delivered, a tear of the uterus, or poor blood clotting are other possible causes.^[7] It occurs more commonly in those who: already have a low amount of red blood, are Asian, with bigger or more than one baby, are obese or are older than 40 years of age.^[7] It also occurs more commonly following caesarean sections, those in

whom medications are used to start labor, and those who have an episiotomy.^[7]

Study Design: Randomized Prospective study

Material & Method

- **No. of Cases:** 200 Vaginally Delivered patients of age group 18-45 yrs with Excessive bleeding after administration of Oxytocics.
- **Duration of Study** - Jan 2017 to December 2017 (12 months)

Inclusion Criteria

- All the vaginal delivered patients admitted with PPH or developed PPH or having excessive bleeding after administration of Oxytocics during the duration of study.

Exclusion Criteria

- Arterial bleeding requiring exploration and ligation or angiographic embolization.
- Cases indicating hysterectomy.
- Where uterine rupture is suspected
- Cervical cancer.

Results & Observations

Table 1 Distribution of cases showing association of High Risk factors and PPH was controlled or not

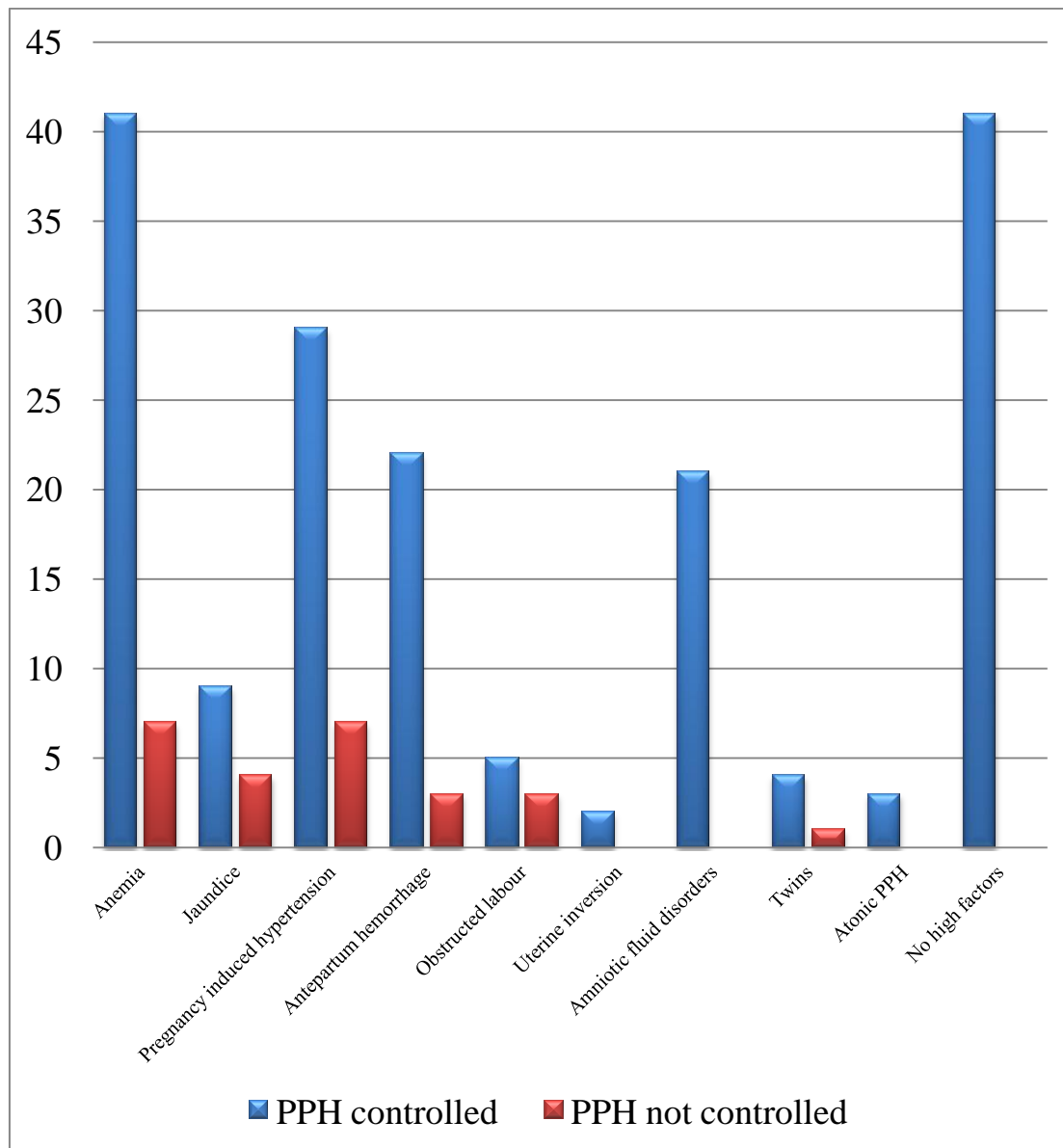
Associated high risk factors	PPH controlled	PPH not controlled	Total cases
Anemia	41	7	48
Jaundice	9	4	13
Pregnancy induced hypertension	29	7	36
Antepartum hemorrhage	22	3	25
Obstructed labour	5	3	8
Uterine inversion	2	0	2
Amniotic fluid disorders	21	0	21
Twins	4	1	5
Atonic PPH	3	0	3
No high factors	41	0	41
Total	175	27	202

Some Cases may belong to Superimposed Category

- Causes pertaining to traumatic PPH

Methodology

All the vaginal delivered patient shaving PPH are divided into two groups: one receiving 800 microgram perrectally/sublingually misoprostol & other group receiving CG balloon condom catheter. In around 105 cases Misoprostol was used and in another 95 cases CG balloon condom catheter was used. Cases were allocated using randomization by alternately allocating the cases to Misoprostol and Condom Catheter group. Wherever Misoprostol was used, we watched for 10 minutes for bleeding to stop but if it did not stop we insert CG balloon to prevent deterioration of the cases. Further, if CG balloon fails after 30-40 minutes cases are shifted to operation theatre and planned for sequential devascularization. Further when either of the options failed i.e. even after failure of stepwise devascularisation, we proceed for hysterectomy.



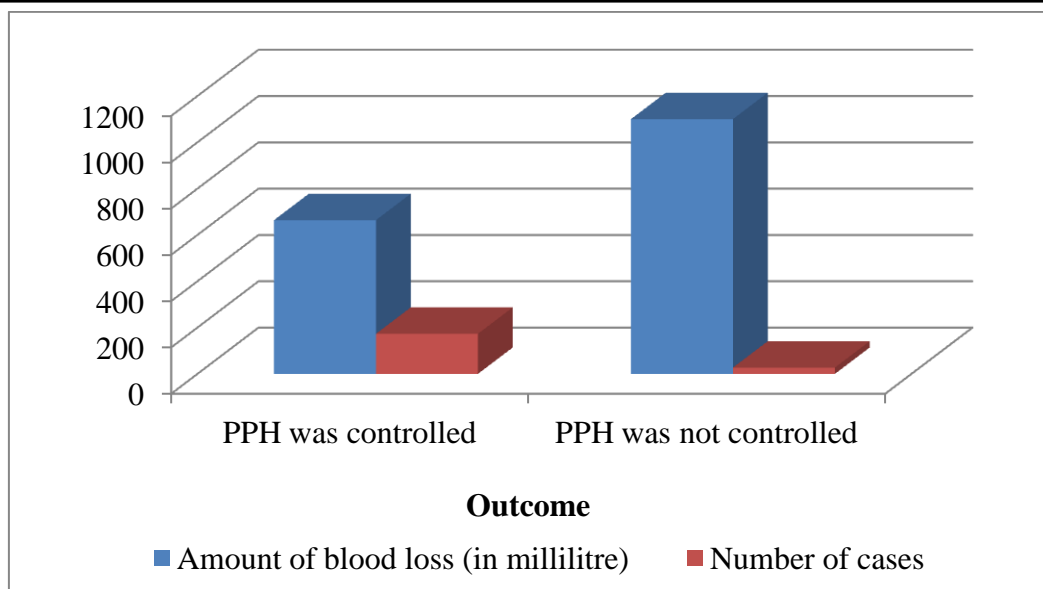
Graph 1: Showing Distribution of cases showing association of High Risk factors and PPH was controlled or not

The Fischer's exact test was applied to see the association between PPH controlled and the High Risk factor associated with it. The p value for Fischer's exact test was 0.000 and this is less than

0.05 hence found to be clinically significant. Thus there is positive association between PPH controlled and the associated High risk factor.

Table 2 Quantification of Amount of blood loss on whether PPH was controlled or not

Outcome	Amount of blood loss (in millilitre)	Number of cases
PPH was controlled	663.80	173
PPH was not controlled	1100.00	27



Graph 2: Showing Quantification of Amount of blood loss on whether PPH was controlled or not.

The amount of blood loss affects whether PPH was controlled or not. Independent t Test was applied and its p value was 0.000 (<0.05) which is found to be significant.

Discussion

High Risk Factors: In my study it was observed that 48 (24%) cases belong to category of Anemia, however, In the study conducted by Moushmi B. Parpillewar and Shalin S. Fusey^[10] et al it included only 35 (13.8%) cases. In my study it was observed that 25 (12.5%) cases belong to category of Antepartum Hemorrhage, however, In the study conducted by Moushmi B. Parpillewar and Shalin S. Fusey^[10] et al it included 56 (22.22%) cases.

In my study it was observed that 5 (2.5%) cases belong to category of Multiple Pregnancy, however, In the study conducted by Moushmi B. Parpillewar and Shalin S. Fusey^[10] et al it included 26 (10.3%) cases.

Amount of Blood Loss: In my study it was observed that the mean amount of blood loss is 663.80 ml in the cases in which PPH was controlled i.e. in 173 (86.5%) cases and 1100.00 ml in the cases in which PPH was not controlled i.e. 27 (13.5%) cases. The minimum amount of blood loss was 400ml and the maximum was 1500ml. In a study conducted by Sheikh L, Najmi N, Khalid U, Saleem T et al in 2008, the mean

blood loss was 2431 ± 1817 ml (range: 1500 - 9000 ml). In a multicentric study conducted by Tort J, Hounkpatin B, Popowski T, Traore M, Bodin C, Perrin R, Rozenberg P and Dumont A et al^[11], the mean amount of blood loss is 800 ml.

Conclusion

High Risk Factors: Most of the cases belong to high risk factor in association with Anemia and depending on the degree of its severity. The cases belonging to this category were 48 (24%). Out of them 20 cases were managed with Misoprostol and 35 cases were managed using CG Balloon intervention. PPH was not controlled in 7 cases by misoprostol so CG balloon condom catheter was used and it was found to be successful in rest of cases. The CG balloon Condom Catheter played a novel role in 2 cases of uterine inversion and helped in their management. However, PPH was found to be associated with Jaundice in 13 (6.5%) cases, Misoprostol was used in 9 cases out of which misoprostol controlled PPH in 5 cases and failed in 4 cases. CG balloon was used in 8 cases of PPH and controlled PPH in 3 cases of misoprostol failure and failed itself in 1 case so patient underwent hysterectomy as both options failed. Overall 1 patient underwent hysterectomy and CG balloon controlled PPH in 3 cases of misoprostol failure.

However in around 41 (20.5%) cases no high risk factor was present so cause of PPH cannot be elucidated. It was found that High Risk factors affects the outcome or are positively associated with the outcome. In other words, the High Risk factors affects whether PPH is controlled or not.

It was found that in category of cases with no high risk factors either misoprostol or condom catheter, they both played an efficient role to prevent PPH. However, CG balloon condom catheter saved lives of 2 cases with uterine inversion where all the measures for atonic uterus failed and even helped efficiently in reposting the uterus intra abdominally. Moreover, in cases of Atonic PPH, Condom Catheter played a novel role by controlling PPH while misoprostol failed in 2 cases.

References

1. Knight M; On behalf of UKOSS. Peripartum hysterectomy in the UK: management and outcomes of the associated haemorrhage. *BJOG*2007; 114:1380–7.
2. Dabelea V, Schultze PM, McDuffie RS. Intrauterine balloon tamponade in the management of postpartum hemorrhage. *Am J Perinatol* 2007;24:359–64.
3. Seror J, Allouche C, Elhaik S. Use of Sengstaken-Blakemore tube in massive postpartum hemorrhage: a series of 17 cases. *Acta Obstet Gynecol Scand* 2005;84:660–4.
4. Keriakos R, Mukhopadhyay A. The use of the Rusch balloon for management of severe postpartum haemorrhage. *J Obstet Gynaecol* 2006;26:335–8.
5. Condous GS, Arulkumarah S, Symonds I, Chapman R, Sinha A, Razvi K. The “tamponade test” in the management of massive postpartum hemorrhage. *Obstet Gynecol* 2003;101:767–72.
6. Akhter S, Begum MR, Kabir Z, Rashid M, Laila TR, Zabeen F. Use of a condom to control massive postpartum hemorrhage. *Med Gen Med* 25(3):1–9.
7. Weeks, A (January 2015). "The prevention and treatment of postpartum haemorrhage: what do we know, and where do we go to next?". *BJOG : an international journal of obstetrics and gynaecology*. 122 (2): 202–10. PMID 25289730. doi:10.1111/1471-0528.13098.
8. Gibbs, Ronald S (2008). *Danforth's obstetrics and gynecology* (10th ed.). Philadelphia: Lippincott Williams & Wilkins. p. 453. ISBN 9780781769372. Archived from the original on 2016-06-05.
9. Lynch, Christopher B- (2006). *A textbook of postpartum hemorrhage : a comprehensive guide to evaluation, management and surgical intervention*. Duncow: Sapiens Publishing. pp. 14–15. ISBN 9780955228230. Archived from the original on 2016-08-15.
10. International Journal of Interdisciplinary and Multidisciplinary Studies (IJIMS), 2016, Vol 3, No.2,28-34. 28 Available online at <http://www.ijims.com> ISSN: 2348 – 0343 Parpillewar MB, Fusey SS. Intrauterine condom catheter tamponade in the management of atonic postpartum haemorrhage: a case series from a tertiary care centre in Central India. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*. 2017 Jul 26;6(8):3468–72.
11. Tort J, Hounkpatin B, Popowski T, Traore M, Bodin C, Perrin R, Rozenberg Pand Dumont A. A Randomized Controlled Trial to Test the Effectiveness of Intrauterine Balloon Tamponade with Condom Catheter in Severe Postpartum Hemorrhage Management: A Feasibility Study in Benin 1 Tort et al., *J Women's Health Care* 2013, 2:4 <http://dx.doi.org/10.4172/2167-0420.1000135>.