

Postpartum Haemorrhage and B-Lynch Suture Management in a District Head Quarter Hospital: A Cross-Sectional Descriptive Study

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ABSTRACT

Objective: The purpose of this study was to determine how often B-Lynch suture treatment was among postpartum hemorrhage patients in a tertiary care facility.

Study Design: A Cross-Sectional Descriptive Study

Methods: This study was conducted at Department of Gynecology and Obstetrics DHQ Teaching Hospital Mardan during may 2022 to February 2023. Total 40 patients of age 18-40 years were presented in this study. All patients who suffered from postpartum hemorrhage throughout that period were included in the study. Patients with bleeding disorders, traumatic postpartum hemorrhage, retained placenta fragments, congenital anomalies, disseminated intravascular coagulation, and entire placenta previa/accreta were not included in the study.

Results: Among all, majority patients 18 (45%) had age 26-30 years. The mean gestational age was 35.14 weeks and the mean birth weight of the baby was 3.45 kg. B-Lynch suture management was done in 14 (35%) cases. 2 (5%) were underwent for cesarean hysterectomy and 38 (95%) cases had uterus salvage.

Conclusion: The addition of B-Lynch suture to the treatment of uterotonics-resistant persistent atonic primary postpartum hemorrhage can save a woman's life and preserve her future fertility.

Keywords: postpartum hemorrhage, B Lynch Suture, cesarean section

INTRODUCTION

According to the World Health Organisation (WHO), maternal mortality (MM), which affects about 300,000 women each year, is a serious global problem. Most of these deaths (94%) could have been avoided and occurred in low-income or emerging countries¹. Globally, MM rates have decreased, although there are still notable geographical differences. Our comprehension of the socioeconomic factors contributing to this problem has improved as a result of the implementation of MM reduction measures. These include educational attainment, income disparity, and place of birth².

Postpartum haemorrhage (PPH) is one of the major causes of death and disability among women worldwide. It happens after childbirth when the uterus does not contract properly. This condition, called uterine atony, accounts for 25–30% of all MM cases and 75–90% of PPH cases³. PPH can cause serious side effects, such as caesarean hysterectomy, which may affect fertility and the desire to start a baby. In almost 80% of instances, uterine atony is the root cause of primary postpartum haemorrhage. PPH is a risk factor for about 6% of caesarean deliveries and 4% of vaginal births⁵.

Uterotonics is used to treat postpartum haemorrhage. If it doesn't work, uterine tamponade and bimanual uterine compression can be used. If this doesn't work, the next step is pelvic vascular ligation, which only a select few gynaecologists are trained to perform. A caesarean hysterectomy is more difficult than a typical gynaecological hysterectomy and is typically the last option. A woman who has a hysterectomy also loses her ability to conceive in the future. It is a life-saving measure for PPH patients⁶⁻⁹.

The B-Lynch compresses the uterine body on both sides without changing its anatomy. It might help avoid postpartum haemorrhage and preserve fertility without the need for pelvic surgery¹⁰. B-Lynch has been advocated as a treatment for PPH due to its 86.4% success rate in avoiding a hysterectomy¹¹. Consequently, despite the lack of published evidence on the topic, surgical management techniques are increasing across the country. Determining the frequency of B-Lynch suture treatment among postpartum haemorrhage patients in a tertiary care centre was the aim of this study.

MATERIALS AND METHODS

The study was conducted in Department of Gynecology and Obstetrics DHQ Teaching Hospital Mardan during may 2022 to February 2023. Total 40 patients who suffered from postpartum hemorrhage throughout that period were included in the study. The study excluded patients with disseminated intravascular coagulation (DIC), intact placenta previa/accreta, congenital abnormalities, traumatic PPH, bleeding disorders, and retained placenta fragments. It was a convenience sample.

In every instance, the third stage of labor was actively managed using oxytocin, uterine massage, and controlled cord traction. Even with uterotonics for atonic PPH, a B-Lynch brace suture was used if the patient's hemorrhage was uncontrollable. Patients with primary PPH who were treated with B-Lynch sutures because of unmanageable hemorrhage and who did not react to uterotonics were included in this study.

The confinement book in the labor room and the record book for the cesarean section were used to gather data. The following information was included in the data collecting proforma: parity, birth method, indication of cesarean delivery, blood transfusion, requirement for intensive care unit (ICU), and subsequent surgical procedures. Polydioxanone Vicryl 01 suture was used in conjunction with B-Lynch suture following the use of medication to treat atonic PPH.

The effectiveness of B-Lynch suture application was measured by stopping bleeding. Complications during the first five days, such as postoperative fever, ICU/Critical Care Unit (CCU)/ventilator support, DIC, hysterectomy, and maternal death, were recorded in the patient's file. Data was analyzed using IBM SPSS Statistics version 24.0.

RESULTS

Among all, majority patients 18 (45%) had age 26-30 years, 12 (30%) cases had age 31-40 years and 10 (25%) cases had age 18-25 years.(table 1)

The mean gestational age was 35.14 weeks and the mean birth weight of the baby was 3.45 kg. There were 27 (67.5%) cases had parity primipara and multipara were 13 (32.5%) cases.(table 1)

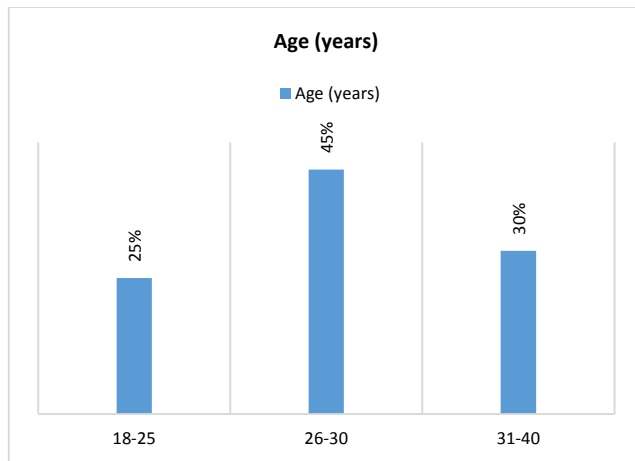


Figure-1: Age of the presented cases

Table-1: Demographics of the presented cases

Variables	Frequency	Percentage
Mean gestational age (weeks)	35.14	
Mean birth weight (kg)	3.45	
Parity		
Primipara	27	67.5
Multipara	13	32.5

B-Lynch suture management was done in 14 (35%) cases. 2 (5%) were underwent for cesarean hysterectomy and 38 (95%) cases had uterus salvage.(table 2)

Table-2: Treatment of PPH

Variables	Frequency	Percentage
B-Lynch suture		
Yes	14	35
No	26	65
Treatment		
cesarean hysterectomy	2	5
uterus salvage	38	95

DISCUSSION

Obstetricians have long struggled to manage atonic PPH. The recently developed B-Lynch suture has proven to be extremely useful in treating atonic PPH that is resistant to uterotonics. It not only maintains future fertility but also saves lives. In our current investigation, the prevalence of B-Lynch sutures was 35%, with 95% effectiveness in treating atonic PPH resistant to uterotonics.

If a mother dies as a result of PPH, there is often litigation. Obstetricians are always plagued by the prospect of fatal complications, which, if left untreated, can have far-reaching implications. The recent development of the B-Lynch suture has been extremely beneficial in the treatment of intractable haemorrhage. It is easy and effective, produces acceptable haemostasis after application, and if it fails, there are further extreme methods available. This treatment is easy, takes little time, and can be done in an emergency to save fertility and life. According to WHO standards, compression sutures should be tried first if conservative therapy fails¹²

There have been situations where B-Lynch was used just for postpartum haemorrhage control, with no vascular ligation, and the pregnancy results were excellent¹³ When medical and nonmedical measures fail, uterine compressive sutures are a well-established method for controlling bleeding during atonic postpartum haemorrhage¹⁴ The absorbable suture can be kept in place and is unlikely to cause difficulties in subsequent pregnancies¹⁵

Atonic PPH was most common in primipara, however in a study conducted in Mumbai, India, atonicity was similar in both

primipara and multiparous, although the difference was not significant in the current study¹⁶ In contrast, a research from India found that the majority of patients were multigravida¹⁷ This can be ascribed to many causal variables in different populations, as well as indications for a caesarean section in such women.

Our investigation found that the B Lynch suture was 100% effective in reducing postpartum haemorrhage. The findings are consistent with those of Vijayasree M at Mamata Medical College in India, who found that the B Lynch suture improved postpartum haemorrhage management by 100%¹⁸

This demonstrates that the B Lynch suture is an effective and simple method for controlling postpartum haemorrhage. It is quite simple to gain skill in using B Lynch. With little training, all young doctors can become experts, with significant benefits. The study found that using the B Lynch suture saves the patient's uterus, which is required for future fertility. It also protects the female's life and avoids major surgery, such as a hysterectomy.

CONCLUSION

The addition of B-Lynch suture to the treatment of uterotonic-resistant persistent atonic primary postpartum hemorrhage can save a woman's life and preserve her future fertility.

REFERENCES

1. Alkema L, Chou D, Hogan D, et al; United Nations Maternal Mortality Estimation Inter-Agency Group collaborators and technical advisory group. Global, regional, and national levels and trends in maternal mortality between 1990 and 2015, with scenario-based projections to 2030: a systematic analysis by the UN Maternal Mortality Estimation Inter-Agency Group. *Lancet*. 2016;387 (10017):462-474.
2. Song H, Hu K, Du X, Zhang J, Zhao S. Risk factors, changes in serum inflammatory factors, and clinical prevention and control measures for puerperal infection. *J Clin Lab Anal*. 2020;34(03):e23047.
3. Combs CA, Murphy EL, Laros RK., Jr Factors associated with postpartum hemorrhage with vaginal birth. *Obstet Gynecol*. 1991;77(1):69-76
4. Studd J. *Progress in Obstetrics and Gynecology*. 1st ed. Vol. 17. London: Churchill Livingstone; 2007. p. 472.
5. Prasertcharoensuk W, Swadpanich U, Lumbiganon P. Accuracy of the blood loss estimation in the third stage of labor. *Int J Gynaecol Obstet*. 2000;71(1):69-70
6. Fawcus, S. 2010b. Prevention of postpartum haemorrhage (PPH) and deaths from PPH: Review. *Obstetrics and Gynaecology Forum*, 20(3):81-83.
7. Frank, K., Lombaard, H. & Pattinson R. C. (for the ESMOE Group). 2009. Does completion of the Essential Steps in Managing Obstetric Emergencies (ESMOE) training package result in improved knowledge and skills in managing obstetric emergencies? *South African Journal of Obstetrics and Gynaecology*, 15(3):94-99.
8. Oyelese, Y. & Ananth, C. V. 2010. Postpartum hemorrhage: Epidemiology, risk factors, and causes. *Clinical Obstetrics and Gynecology*, 53(1):147-156. <http://dx.doi.org/10.1097/GRF.0b013e3181cc406d>
9. Pattinson, R. C. 2012. Saving Mothers: Fifth Report on Confidential Enquiries into Maternal Deaths in South Africa 2008-2010. Pretoria: National Department of Health.
10. Vachhani M, Virkud A. Prophylactic B-Lynch suture during emergency caesarean section in women at high risk of uterine atony: a pilot study. *Internet J Gynecol Obstet*. 2006;7(1):1-5.
11. Koh E, Devendra K, Tan LK. B-Lynch suture for the treatment of uterine atony. *Singapore Med J*. 2009;50(7):693-7
12. Gerli S, Favilli A, Giordano C, Pericoli S, Laurenti E, Di Renzo GC. Fertility after "only B-Lynch" suture: a case report and literature review. *Taiwan J Obstet Gynecol*. 2013 Mar;52(1):110-2.
13. WHO guidelines for the management of postpartum haemorrhage and retained placenta. Geneva: World Health Organisation; 2009.
14. Grotegut CA, Larsen FW, Jones MR, Livingston E. Erosion of a B-Lynch suture through the uterine wall: a case report. *J Reprod Med*. 2004 Oct;49(10):849-52.
15. Bagade PM. Efficacy of B-Lynch compression suture for control of intractable hemorrhage during cesarean section. *MGM journal medical sciences*. 2022;9(3):345-50
16. Tariq S, Wazir S, Moeen G. Efficacy of B-Lynch brace suture in postpartum haemorrhage. *Ann King Edw Med Univ*. 2011;17(2):116.
17. Nalini N, Kumar SJ. B-Lynch suture - An experience. *J Obstet Gynaecol India*. 2010 Aug 14;60:128-34.
18. Vijayasree M. Efficacy of prophylactic B Lynch suture during lower segment caesarian section in high risk patients for atonic post partum hemorrhage. *Kathmandu Uni Med J*, 2015