

B-LYNCH UTERINE COMPRESSION SUTURES IN PPH-AN EXPERIENCE AT TERTIARY CARE CENTRE

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ABSTRACT**BACKGROUND**

The commonest cause of postpartum hemorrhage is uterine atony. It is a serious obstetrical problem and contributes to 25-43% of all maternal deaths in the developing countries. This suture technique was described by Christopher B-Lynch in 1997 that envelope and compresses the uterus to control life-threatening postpartum hemorrhage.

AIM OF THE STUDY

To study the effectiveness of B-Lynch uterine compression sutures in the control of PPH.

MATERIAL AND METHODS

A prospective 2-year observational study, a total of 100 cases of B-Lynch was performed and results analyzed.

RESULTS

The study includes 100 B-Lynch applications in 12,950 deliveries. Multiparous women were at a greater risk [56%]. Obstetric complications associated with PPH were PIH [29%], APH [Placenta praevia 14% and abruption 10%], Twins [17%], anaemia [11%], polyhydramnios [4%]. Emergency LSCS was the most common procedure associated with atonic PPH [68%] followed by Elective LSCS [28%]. In this study, additional procedures required were uterine and ovarian artery ligation in 24 cases [24%] and hysterectomy in 2 cases [2%].

CONCLUSION

B-Lynch suture is a valuable addition to surgical management of PPH because of its ease of application, lifesaving potential and its capacity to preserve the uterus. Hysterectomy is associated with morbidity in a young woman in addition to loss of fertility, which can be avoided by application of B-Lynch suture.

KEYWORDS

B-Lynch Sutures, Maternal Deaths, Obstetric Hysterectomy, PPH B-Lynch Uterine Compression Sutures in PPH-An experience at Tertiary Care Centre.

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INTRODUCTION

PPH is the most common cause of maternal deaths and accounts for one-quarter of deaths worldwide. About 1,50,000 women bled to death during or immediately after labor worldwide.^[1] In developing countries, PPH contributes to 17-40% of maternal mortality and 40% maternal morbidity.^[2] Atonicity of the uterus is the most common cause of postpartum hemorrhage. It accounts for 75-90% of PPH. Postpartum haemorrhage is a potentially life-threatening complication associated with fetal delivery.^[3] It may occur after vaginal delivery (4%) or caesarean section (6%).^[4,5]

MATERIAL AND METHODS

A prospective 2-year observational study conducted at a

Tertiary Care Centre, where around 6000 to 7000 deliveries occur annually. A total of 100 cases of B-Lynch were performed during this period. In all cases, the procedure was performed after failure of medical treatment. The exclusion criteria were,

1. Genital tract lacerations.
2. Blood coagulation disorders.
3. Retained placenta.

PROCEDURE

Women were positioned in frog leg supine position, which is important for assessing vaginal bleeding intraoperatively and determining the success of bimanual compression and the B-Lynch suture. For this procedure chromic catgut No. 2 on round bodied needle was used. Modified B-Lynch suture was applied where we had already closed the LSCS incision on the uterus and then because of uterine atony decision was taken to apply B-Lynch suture. LSCS sutures were not reopened. This was useful also when we were applying B-Lynch to control postpartum hemorrhage following vaginal delivery, thus avoiding a uterine incision. Additional procedures along with B-Lynch like uterine and ovarian artery ligation and if

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necessary hysterectomy when B-Lynch compression suture failed to control bleeding were recorded.

Vital data before the procedure and after the procedure were checked and recorded. Blood loss measured before and after the procedure.

RESULTS

The study includes 100 B-Lynch applications in 12,950 deliveries. The age group with maximum incidence was between 21-25 years [61%]. Multiparous women were at a greater risk [56%] [Table 1]. Obstetric complications associated with PPH were PIH [29%], APH [Placenta praevia 14% and abruption 10%], Twins [17%], anaemia [11%], polyhydramnios [4%]. In 15 cases [15%], there were no known risk factors for PPH [Table 2]. Emergency LSCS was the most common procedure associated with atonic PPH [68%] followed by Elective LSCS [28%]. Atonic PPH was seen in 4 cases [4%] of vaginal deliveries [Table 3]. A total of 64 cases required blood transfusion of which 8 cases [8%] required 3 units and 6 [6%] required 4 units [Table 4]. In this study, additional procedures required were uterine and ovarian artery ligation in 24 cases [24%] and hysterectomy in 2 cases [2%]. Additional procedures were mostly required in cases of placenta praevia [Table 5].

Age	Number of Cases [Percentage]
<20 years	33[33%]
20-25 years	61[61%]
26-30 years	6[6%]
Parity	
Primi	44[44%]
Multi	56[56%]

Table 1: Demographic Factors

Obstetric Complications	Number of Cases [Percentage]
PIH	29[29%]
Placenta praevia	14[14%]
Abruption	10[10%]
Polyhydramnios	4[4%]
Anaemia	11[11%]
Twins	17[17%]
Total	85

Table 2: Risk Factors

Mode of Delivery	Number of Cases [Percentage]
Vaginal	4[4%]
Emergency LSCS	68[68%]
Elective LSCS	28[28%]
Total	100

Table 3: Mode of Delivery

Units of Blood	Number of Cases [Percentage]
1	36[36%]
2	14[14%]
3	6[6%]
4	8[8%]
Total	64[64%]

Table 4: Need for Blood Transfusion

Type of Intervention	Number of Cases [Percentage]
B-Lynch/Modified B-Lynch	74[74%]
Uterine A/Ovarian A ligation plus B-Lynch/Modified B-Lynch	24[24%]
Hysterectomy	2[2%]
Total	100

Table 5: Type of Intervention

DISCUSSION

We report our experience with uterine compression sutures that were developed as uterine-salvaging procedures for the treatment of PPH. In our study, indication for application of B-Lynch suture was uterine atony in 86% of cases and placental causes in 14% of cases. In this study, 74 cases achieved hemostasis with B-Lynch alone and in 24 cases uterine and ovarian artery ligation was performed along with B-Lynch suture. B-Lynch failed to control bleeding and hysterectomy was performed in 2 cases. A study by Wohlmuth et al.^[6] described 22 cases: 11 cases obtained hemostasis with the B-Lynch suture alone and six cases with the suture and uterine and/or ovarian artery ligation. They had a 77.3% success rate, similar to the 28 cases reported by Baskett.^[7] who had an 82.1% success rate. In our study, success rate of avoiding hysterectomy was 98%.

The success rate of uterine compression sutures has been reported to be 77 to 82% in several case series. Price and B-Lynch.^[8] presented a detailed review of 15 published reports, which included 46 cases with two failures. Faruqi et al.^[9] performed B-Lynch suture on 45 women to control PPH. They applied this suturing technique successfully in 44/45 patients with failure rate of 2.22%. Choudry.^[10] Performed B-Lynch suture on 17 patients with refractory PPH of whom 12 were applied at cesarean section and five was a sequel to vaginal delivery. The procedure was successful in 14 patients. Failure of B-Lynch was more with placenta praevia, previous CS and DIC. These conclusions were similar to our study.

CONCLUSION

B-Lynch suture is a valuable addition to surgical management of PPH because of its ease of application, life-saving potential and its capacity to preserve the uterus. Hysterectomy is associated with morbidity in a young woman in addition to loss of fertility, which can be avoided by application of B-Lynch suture. It is less effective in cases of PPH due to placenta praevia. Long-term followup is required in these patients to assess effect on fertility and menstrual function.

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