Kathmandu University Medical Journal (2005), Vol. 3, No. 4, Issue 12, 418-420

Case Note

B-Lynch brace suture simple surgical technique for managing post-partum haemorrhage - Report of three cases

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Abstract
Post-partum haemorrhage is a major contributor to maternal morbidity and mortality. Numerous medical and surgical therapies have been used but none has been uniformly successful. Three cases which were managed successfully with brace suture following failure of medical management for post-partum haemorrhage are being presented. The ease and usefulness of this procedure as a life saving measure, its relative safety and its capacity for preserving the uterus and thus fertility is high lighted.

Keywords: post-partum haemorrhage, B – Lynch Brace Suture & maternal mortality.

Post-partum haemorrhage remains a serious obstetric problem [1,2,3] and contributes to 25 – 43% of all maternal deaths in the developing countries.[2,3] Five percent of vaginal deliveries may lead to post-partum haemorrhage with a blood loss >1 litre.[1,3] Published data suggest a variety of acceptable methods of treatment such as simple bimanual compression, ecbolics such as oxytocin, syntometrine and prostaglandius which are safe and effective but occasionally proves inadequate.[1] Surgical methods vary depending on the site of bleeding, the severity of the conditions and cardio-vascular stability of the patient.[1] Various surgical methods to reduce pelvic pressure have been described from simple surgical ligature of the uterine artery to more complicated uterine, ovarian and internal iliac artery ligation. These procedures need skill which may not be normally possessed by the on duty Registrar. Recently B – Lynch, a suture that envelops and compresses the uterus was described by Christopher B - Lynch (1997) in five cases and was successful in managing massive life threatening. Post-partum haemorrhage where conventional ecbolics had proved ineffective. We treated three women with post-partum haemorrhage due to uterine atony after caesarean sections. The B – Lynch brace suture controlled the bleeding in all the three cases.

Case 1
25 years second Gravida at forty weeks and four days of pregnancy underwent caesarean section for fetal distress. Alive female 3 kg. with apgar score of 6/10, 8/10 at one minute and 5 minute respectively was born on 12th February 2005. While the abdomen was being closed, active bleeding from the peritoneal cavity was noted. On inspection the uterus was atonic. Medical treatment with ergometrine, carboprost, ($PGF_{2\alpha}$) syntocinon was tried but of no avail and success Bimanual compression with hot pack was also tried. Later on bilateral uterine artery ligation was done. In spite of all these measures uterus remained atonic and decision to put B – Lynch brace suture was taken. B – Lynch was applied. Absence of bleeding was confirmed by per-vaginal examination. Total blood loss was approximately 1.5 litres. Patient received 2 unit of blood and was discharged on the seventh post operative day.

Case 2
26 years G_2P_{0+1} presented at 38 weeks of pregnancy in labor with thick meconium stained liquor. Emergency caesarean section was carried out on 16th March 2005. Alive female of 3 kg. was born with apgar score of 6/10, 8/10 at 1 minute and 5 minute respectively. The uterus was atonic and there was profuse bleeding. Medical treatment with ergometrine, carboprost, syntocinon was tried. Bimanual compression with hot mops was also tried. Bilateral uterine artery ligation was done. Still uterus remained atonic and bleeding persisted. B-Lynch brace suture was applied which caused cessation of bleeding. Total blood loss was more than 1.5 litres. Patient received 4 unit of blood and was discharged on 8th post operative day.

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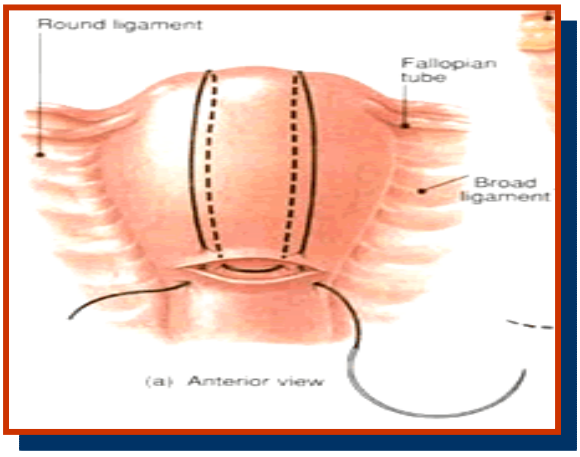
Case 3

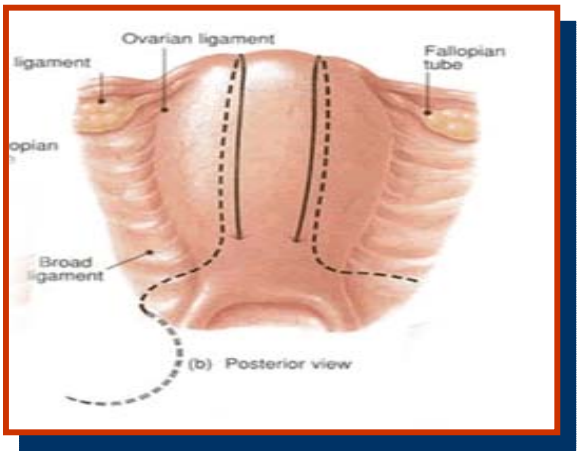
34 years G2P0+1 underwent cesarean section for severe PET with PROM. Alive female 2.7 kg with apgar score 6/10, 8/10 was born. Uterus remains atonic with severe bleeding form the placental bed. In spite of medical treatment with ergometrine, carboprost, syntocinon bleeding persisted. Bilateral uterine ligation was also done still bleeding persisted. B-Lynch brace suture was applied which controlled the bleeding. Patient was discharged on seventh postoperative day and did not receive any blood transfusion.

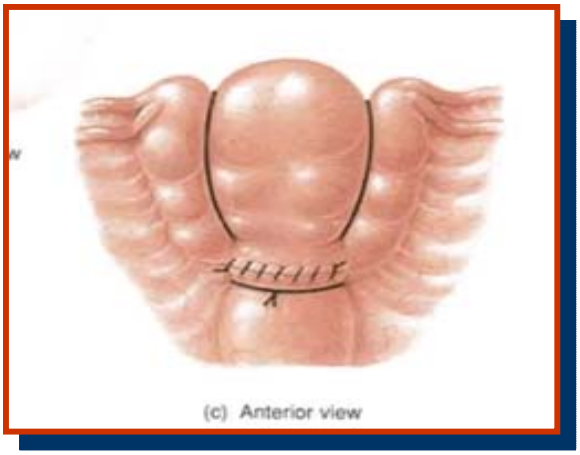
Discussion

These three case and five case reported by B – Lynch (1997) as well as two other cases reported by Ferguson J.E. (2000) and eleven cases reported by Bhal, (2005) show that B – Lynch suture might be a valuable technique for treating post partum haemorrhage due to uterine atony that does not respond to multiple oxytoeic agents or ligation of the ascending branch of the uterine artery. The main steps of this procedure are

1. Under general anaesthesia patient is kept in Lloyd Davies position
2. Catheterization
3. same incision for LSCS or Pfannenstiel incision is adequate
4. LUS as for Caesarean Section is made after dissecting the bladder.
5. Bimanual compression of the uterus to assess the potential chance of success of the B–Lynch suturing technique is done. If bimanual compression controls the bleeding as observed vaginally the suture is placed.
6. A no. 2 chromic suture on a round bodied needle is used to puncture the uterus about 3 cm below the right hand corner of the lower segment incision and brought out about 3 cm above the same corner (as one would place the first suture when closing this corner of the incision).
7. From this point the suture is passed over the right hand cornu of the uterus, approximately 3-4cm from the right corneal border, where it may be fixed to prevent it from slipping off the fundus, and then fed posteriorly and vertically down to the same level where the suture has previously left the uterine cavity from anterior.
8. The suture is then placed through the posterior uterine wall into the cavity under direct vision of the surgeon and back through the posterior wall about 4-5cm left of the previous entry site.
9. With the suture outside and posterior of the uterine cavity at this stage, it is now passed over the left hand cornu, approximate 3-4cm from the left corneal border, where again it may be fixed to the fundus, then fed anteriorly and vertically down to the level of the left corner of the lower segment incision.
10. The needle is then passed through the left corner in the same fashion as on the right hand side, to emerge below the incision margin on the left side.
11. With the suture now in place, the assistant bimanually compresses the uterus while the surgeon pulls the chromic suture taught.
12. If a third person confirms that the bleeding is controlled (as observed vaginally), the surgeon ties the suture to keep it in position and closes the lower segment uterine incision.







The principle of this technique of uterine compression initially suggested by B – Lynch et al is clearly effective as therapeutic measure when faced with major obstetric haemorrhage. This procedure can be applied to vaginal deliveries if laparotomy becomes necessity.[1] However, a systematic examination of perineum and vagina should be conducted to rule local cause of bleeding.

In case report by B – Lynch et al two of five women had subsequent normal deliveries. There is little experience with this surgical technique, so patient should be followed carefully in subsequent pregnancy to assess the uterine integrity. The extreme degree of uterine compression with this technique raises concern about uterine anatomic damage. The few women followed up had [1,2,3] no uterine defects which might be secondary to rapid involution lessening the suture lesion on each post-partum day. The potential benefit of this surgical technique can be evaluated if a database of such cases is set up.

Acknowledgements
I am thankful to our patients without whom this study would not have been possible. I am also tthankful to faculty members and staff of department of Obstetrics & Gynaecology of the KMCTH for preparing this case report.

Reference

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