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Case Report

Successful management of atonic uterus in a caesarean section with modified B–Lynch sutures: a case report

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ABSTRACT

Postpartum haemorrhage (PPH) still remains one of the primary causes of maternal mortality throughout the planet. Prompt management of PPH with medical and surgical intervention should be encouraged as it can be lifesaving. Primary methods of management include a simple bi-manual compression, oxytocic drugs such as oxytocin, ergometrine, and prostaglandins these are safe and effective, but can occasionally prove inadequate or unsatisfactory following which a trial of tamponade should be given if still unsuccessful uterine compression sutures running through the full thickness of both anterior and posterior walls of the uterus are taken which cause mechanical compression and hence control the excessive blood loss. In this study, we report a case of atonic uterus in a case of abruption managed with B-lynch sutures.

Keywords: Compression sutures, Atonic uterus, Postpartum haemorrhage, B-Lynch

INTRODUCTION

Postpartum haemorrhage (PPH) is defined as cumulative blood loss >1000 ml, accompanied by signs and symptoms of hypovolemia.[1] The most common cause of PPH is uterine atony other causes as shown in Figure 1 include retained placenta, injuries to the birth canal, abnormal placentation, abruption, and coagulation defects.[2]

Placental abruption is the separation of the placenta either partially or totally from its implantation site before delivery. It is initiated by haemorrhage into the decidua basalis and rupture of decidual spiral arteries forming retroplacental hematomas. A most frequent condition associated with abruption is some form of hypertension which can be gestational hypertension, preeclampsia, chronic hypertension, or a combination thereof. Management of patients with severe placental abruption is by surgical delivery. Abruption can be complicated by disseminated intravascular coagulation and postpartum haemorrhage.

Surgical procedures for control of PPH include uterine artery ligation, uterine compression sutures, internal iliac artery ligation, and obstetric hysterectomy.[3] Several uterine compression sutures have been devised over the years such as B-Lynch, Hayman, Cho, Pereira, Ouahba, and Hackethal sutures. The most widely performed of these is the B-Lynch or Brace sutures developed by Christopher B-Lynch. This surgical technique uses number 2 chromic sutures to compress the anterior and posterior uterine walls, causing mechanical compression. Future fertility and uterine anatomy are maintained and pregnancies remain uneventful. Some rare and unique complications that can occur include uterine ischemic necrosis, uterine wall defects, and uterine cavity synechiae.

CASE REPORT

A 25-year-old, primigravid patient was admitted to our hospital with abdominal pain at 39 weeks of gestation. On examination, the patient was conscious, oriented with a blood pressure of 160/100 mmHg, urine albumin 2+, bilateral knee jerks: normal, premonitory symptoms of preeclampsia were absent she was given injection labetalol 20 mg intravenously following which her blood pressure was 150/90 mmHg. Abdominal wall edema+, uterus was tonically contracted. Fetal heart sounds recorded on fetal Doppler were normal. On per vaginal examination cervical os was 1.5 cm dilated, poorly effaced with vertex presentation, membranes were ruptured to drain blood-stained liquor. Blood investigations were as follows, complete blood count (CBC): hemoglobin (Hb) 9.6, total leucocyte count (TLC) 12300, platelet (PLT) 176000, liver and renal function tests were within normal limits. After a clinical diagnosis of abruptio placenta, she was immediately shifted to the operating theatre and a caesarean section was performed with a low segment transverse incision. A male child of 3.5 kg was delivered (Apgar 9/10). Hind water was blood-stained and the placenta was partially separated with no retroplacental clots 20 units of oxytocin were given intravenously and the uterus was closed with continuous interlocking sutures but remained atonic and continued to bleed profusely. A pint of 40 units of oxytocin was started and 10 units were given intramuscularly along with intermittent fundal massage. 10 minutes later the uterus was still flabby 1000 microgram of misoprostol was given per rectal and injection carboprost 250 micrograms was given intramuscularly. 20 minutes later the uterus was still flabby injection methergine 0.25 mg was given intramuscularly and 200 microgram misoprostol was given sublingually. With no improvement in uterine tone at the end of 40 minutes the decision to perform B-Lynch compression sutures was taken as shown in Figure 2.

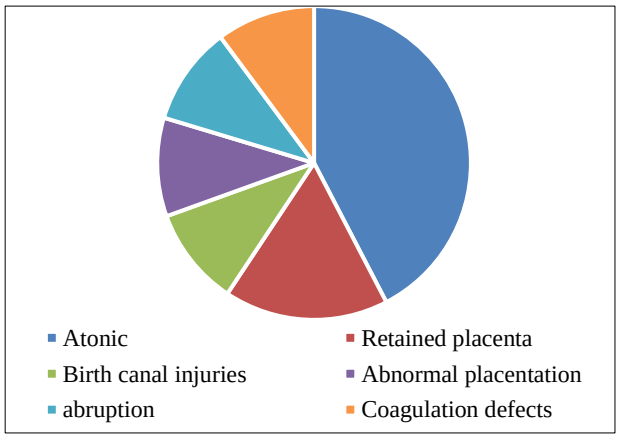

Figure 1: Causes of postpartum haemorrhage.

Haemostasis was successfully achieved with a total blood loss of 1150 ml intra-operatively patient appeared clinically pale and had a pulse rate of 112/min. Intra op CBC was sent and a drop in Hb to 7.3 and a platelet count of 122000 was noted. Postoperatively the patient was monitored closely and was given 1 unit of blood for replacement. An oxytocin drip was given postoperatively for 8 hours, and fundal height and blood loss were assessed every 2 hours. Her pulse was 102/min, blood pressure (BP) was 150/90 mmHg, urine output was adequate and abdominal girth was constant. Lochia and fundal height were monitored daily. She was started on injectable antibiotics for 5 days and on tablet nicardia 20 mg retard QID. Postop coagulation profile, D-dimer, liver and renal function tests were all within normal limits. Post blood transfusion her haemoglobin was 8.6, TLC 14600 and platelet count 145000. On day 3 check dress was done the wound was healthy and on day 7 the patient was discharged on a BP of 130/80 mmHg controlled on tablet nicardia 20 retard BD.

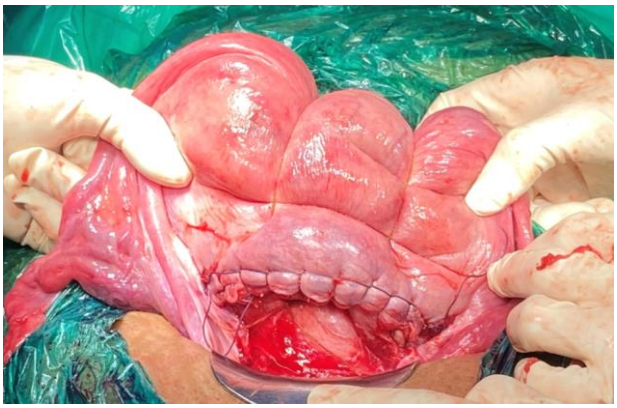

Figure 2: Modified B-Lynch sutures.

DISCUSSION

PPH is a common obstetric emergency that can cause maternal morbidity and mortality. Fortunately, medical management of PPH is usually successful, and surgical interventions aren't needed in the overwhelming majority of the cases. However, when surgical interventions are required, a procedure that is efficient and preserves fertility is preferable. Surgical methods of controlling uterine bleeding by inserting compression sutures are developed to scale back the incidence of emergency hysterectomy and to preserve fertility in these patients. B-Lynch suture is an alternate operative method for controlling postpartum haemorrhage, especially in uterine atony. The chances of success of this procedure does not depend upon surgical skill. With B-Lynch suture severe pressure can be achieved at the same time on both sides of the uterine body by compressing anterior and posterior uterine walls together.[4] The suture provides enough compression without disturbing the anatomy. The advantage of this technique is that it is simple to learn, safe, and preserves future reproductive potential.

Steps of modified B-Lynch technique

Before starting, a bimanual compression test should be performed to evaluate the effectiveness of compression on

bleeding. Modified B-Lynch requires uterine closure before compression sutures. Vicryl no. 1 is inserted two centimetres below the suture line on the left side and runs out two centimetres above the suture on the same side, it is then suspended high over the fundus and the needle passed transversely just above the level of the uterosacral ligament in the fibrous raphe of the midline (a modification). The vicryl suture is then suspended over the fundus on the left side and needle introduced above the suture line to come out just below it anteriorly. Free ends are then tied together in the midline after traction to gain effective compression followed by two horizontal sutures one above and the other below the suture line. The horizontal sutures secure the vertical sutures in place and provide more compression in the lower segment hence are effective in cases of placenta accreta and bleeding from the lower uterine segment.[5]

The advantage of the modified technique is that the cavity is not entered, so intrauterine adhesions would be less. Also, the vertical sutures fixed posteriorly in the median fibrous raphe above the uterosacral ligament provide a more secure fixation with less bleeding.

CONCLUSION

Compression sutures are a life-saving procedure that alleviates the need for radical surgeries like obstetric hysterectomies and preserves future fertility. Training of all obstetricians in early surgical intervention and aggressive timely management of postpartum haemorrhage is the need of the hour to reduce maternal mortality.

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