

Combination of B-Lynch and modified Cho sutures for postpartum hemorrhage caused by low-lying placenta and placenta accreta

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Summary

Many types of uterine packing are attempted to control PPH, including B-Lynch suture, Cho's suture, and so on. A female PPH caused by a low-lying placenta and placenta accreta did not respond to bimanual compression massage, administration of oxytocin and prostaglandins. A combination of B-Lynch with a modified Cho suture were tried to manage the PPH and succeeded. Combining sutures of B-Lynch with a modified Cho suture not only effectively manage PPH but also conserve the uterus, and avoid infection or adhesions of the endometria and empyema in the cavity of uterus.

Key words: Postpartum hemorrhage (PPH); B-Lynch suture; Cho suture.

Introduction

Postpartum hemorrhage is a common obstetric emergency induced by many causes. A series of methods are attempted to control bleeding, including bimanual compression massage, administration of oxytocin and prostaglandins, and so on. If the usual methods fail to stop the hemorrhage, surgical techniques are employed to stop intractable postpartum hemorrhaging.

We present a case of postpartum hemorrhage (PPH) caused by low-lying placenta and placenta accreta. Although the cause of bleeding was definite, suturing the uterine anterior wall with a "modified Cho suture" combining the B-Lynch suture succeeded in controlling the intractable bleeding versus suturing the whole uterine wall and clogging the uterine cavity as reported with the Cho suture.

Case Report

A 29-year-old, gravida 1, para 0, patient who had recurrent vaginal bleeding for two months was admitted for delivery at 37 weeks of gestation. She had been diagnosed with a low-lying placenta and suspected placenta accreta on ultrasound scans at both 32 and 37 weeks of gestation. At 37+4 weeks of gestation, she delivered by cesarean section a healthy female baby weighing 2,546 g. Apgar scores were 8 and 9 at 1 and 5 min, respectively.

At delivery it was found that the majority of the placenta was implanted on the anterior uterine wall and extended into the lower uterine segment with a tongue of placenta covering the cervix. After the placenta was removed from the uterus, the size of the area of implantation was measured as 10 x 10 cm². Removal of the placenta was followed by PPH due to the lack of effective contraction of the uterus and placenta accreta.

Atonic PPH did not respond to bimanual compression massage, administration of oxytocin and prostaglandins, or uterine packing. Because the patient strongly desired to keep her uterus,

a modified Cho suture was used, with absorbable surgical catgut and a straight needle, in an attempt to stop the uterine bleeding. The procedure was performed by first entering the uterine cavity through the uterine serous membrane with the needle held straight; the needle was then passed through the full thickness of the anterior uterine wall crossing 2 cm transversely on the lining of the uterine endothelium. Next, the needle was brought outside of the uterus and reinserted 2 cm vertically above the uterine surface. The suture was then transversely run through to the serous membrane of the uterus, and finally tied in a knot close to the site on the outer uterine surface where the procedure started. Five quadrangles were made similarly in the placental bed.

The cause of PPH in this case may have been related to uterine atony and low-lying placenta. An advanced B-Lynch suture was additionally applied at the base of the stitch described above. Bleeding was reduced significantly after the knots were tied separately in the lower part of uterus. The uterus and abdominal wall were closed as usual. Total blood loss was estimated at 2,000 ml, and 1,200 ml of blood was transfused. Postoperatively, the patient received oxytocin intravenously and antibiotics for 24 hours. Follow-up assessments of the patient's recovery were made at six weeks and six months postpartum. At these follow-ups, ultrasound examinations and female hormone-level tests were performed. After six months of breast feeding, the infant was weaned and menstruation recommenced.

Discussion

The original Cho suture, also named "patch suture", was performed in a clinical experiment in 2000 by Cho to stop bleeding in the whole uterus [1] (Figure 1). This method is especially suitable for patients with placenta accreta, low-lying placenta, or uterine contraction atony. However, another study indicated that this method may increase the risk of developing myometrium adhesions, especially with full-thickness suturing of the uterine wall. It has been reported that even if the Cho suture controlled bleeding effectively, too many sutures might also cause uterine ischemia and uterine adhesions [2]. Therefore, it has been recommended that regular post-surgical checks of wound drainage be performed [3].

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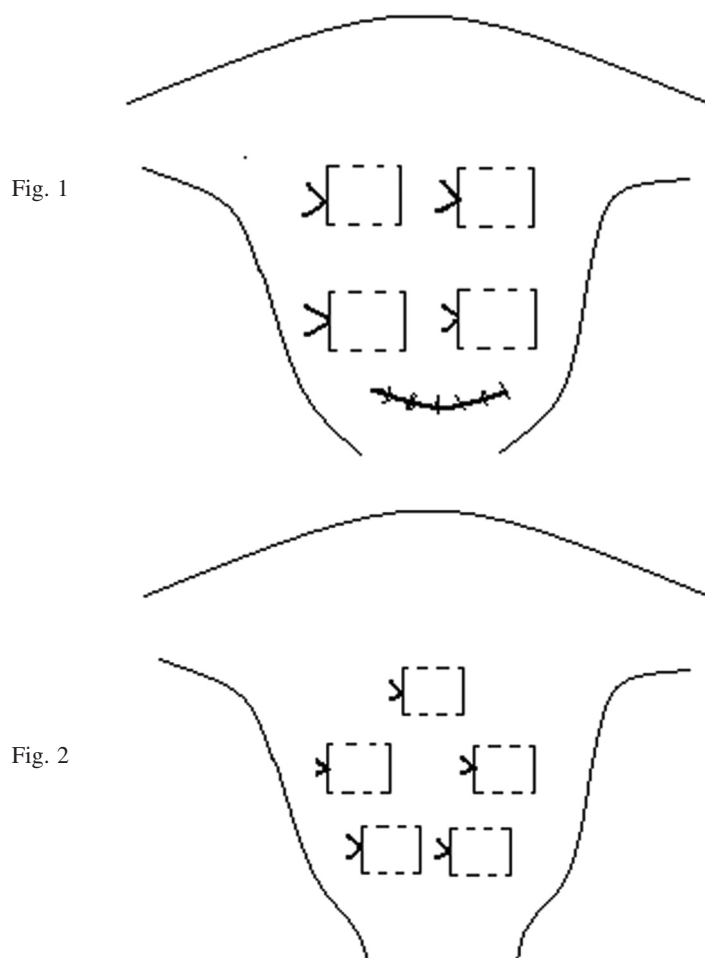


Fig. 1

Fig. 2

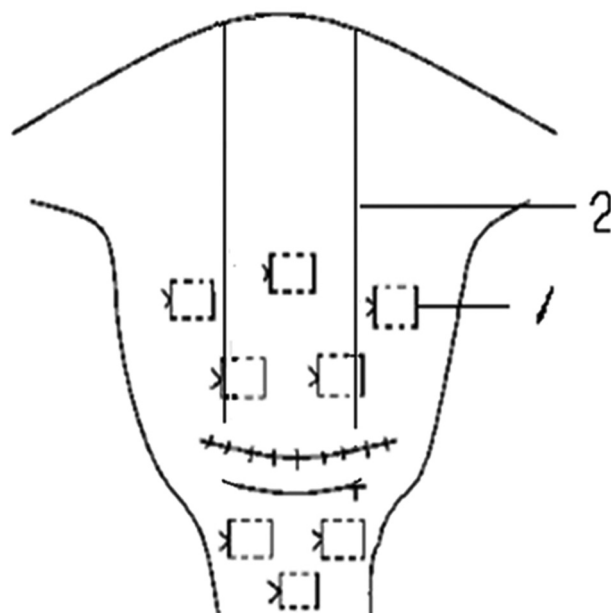


Fig. 3

Figure 1. — Original Cho suture, the needle was entered through the uterine anterior and posterior walls.

Figure 2. — Modified Cho suture, the needle was only entered through the uterine anterior walls.

Figure 3. — 1. The needle was entered through the uterine anterior walls. 2. Advanced B-Lynch suture.

The B-Lynch suture has been widely used in PPH patients with uterine atony [4]. However, for patients with lower uterine segment bleeding, as in the case of low-lying placenta, B-Lynch may not be able to completely control bleeding even though some reduction may occur.

In this case study, the patient strongly desired to keep her uterus despite the diagnoses of low-lying placenta, placenta accreta, and uterine atony at the time of delivery. The modified Cho suture (Figure 2) applied in this case not only controlled bleeding from the uterine wall, but also reduced the risk of developing empyema of the uterine cavity. Because the modified Cho suture did not effectively stop the lower uterine segment bleeding in this case, a B-Lynch suture was used in an attempt to control the PPH related to uterine atony (Figure 3). This succeeded in conserving the uterus without major complications after delivery.

Conclusion

In summary, the case reported here demonstrates that successful treatment of PPH with a combination of B-Lynch and modified Cho sutures not only effectively

manages the PPH, but is also able to conserve the uterus and avoid infection or adhesions of the endometria and empyema in the cavity of uterus.

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