

B-Lynch suture technique to control postpartum hemorrhage in a patient with mullerian anomaly

Uterin anomali olgusunda postpartum kanama kontrolünde B-Lynch sütür tekniği

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Abstract

Congenital anomalies of the uterus may cause gynecologic, obstetric and fertility problems. Obstetrical complications are reported to occur more commonly with mullerian duct anomalies, such as postpartum hemorrhage (PPH). Uterine compression sutures may be effective in controlling PPH in these conditions as an alternative to hysterectomy, especially if the patient has a desire to conceive. As the shape of the uterus is changed in congenital malformation, the usage of compression sutures such as B-Lynch can be more difficult. In this study we report a case of PPH accompanying a large septae, treated with B-Lynch suture. A 24 year old, multigravid and nulliparous patient (G:3) was admitted to our clinic with vaginal bleeding and abdominal pain at 31 weeks of gestation. Emergency cesarean section was performed for abruptio placenta and PPH occurred subsequently. A deep uterine septum was revealed during operation. Intermittent fundal massage and intravenous uterotonics were used to improve uterine tonicity without any improvement. After the B-Lynch suture was performed, the bleeding diminished dramatically. As the shape of the uterus is changed in congenital malformation, the application of secondary interventions in postpartum hemorrhage can be more difficult. There can be slippage or overlapping of the suture while using a B-Lynch suture. Because the uterine shape is not completely distorted, patients with septate uterus can be candidates for a B-Lynch suture. There is no such reported case from the literature regarding efficacy of B-Lynch suture in mullerian anomalies. This case illustrates the potential benefits of B-Lynch compression suture in an uterus with mullerian anomalies.

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Key words: Uterine anomaly, postpartum hemorrhage, B-Lynch suture

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Özet

Uterin konjenital anomalileri jinekolojik ve obstetrik sorunlara yol açabilir ve infertilite ile bulgu verebilir. Postpartum kanama (PPK) ve erken doğum gibi obstetrik komplikasyonlar uterin anomalili olgularda daha sık karşımıza çıkar. Özellikle fertilité arzusu olan olgularda uterin kompresyon sütürleri postpartum kanamanın kontrolünde faydalı olabilir. Uterin anomalide uterusun şeklinin değişmiş olması etkin sütür konulmasını zorlaştırabilir. Bu çalışmada derin uterin septumu olan bir olguda B-Lynch sütürü ile PPK'nın etkin şekilde kontrolü değerlendirilmiştir. 24 yaşında G3P0A2 hasta 31 haftalık gebe iken hastanemize vajinal kanama şikayeti ile başvurdu. Hasta plasenta dekolmanı tanısıyla acil sezeryana alındı sezeryan sonrası PPK gelişti. İntraoperatif olarak derin uterin septum izlendi. Fundus masajı ve uterotonik ajanlara başvuruldu ancak yanıt alınamadı. B-Lynch sütürü konulduktan sonra kanama kontrol altına alındı. Uterusun şeklinin değişmiş olması nedeniyle kanamayı durdurmak amacıyla kullanılan ikinci basamak yöntemler zorlaşır. Uterusun şeklinin tamamen değişmiş olduğu septat uterusda B-Lynch sütürü faydalı olabilir. Literatürde uterin anomalili olgularda B-Lynch sütürünün etkinliğinin değerlendirildiği başka bir olgu sunumu bulunmamaktadır bu olgu sunumu ile uterin anomalili olgularda B-Lynch sütürü kullanılmasının etkin olabileceği gösterilmiştir.

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Anahtar kelimeler: Uterin anomali, postpartum kanama, b-lynch sütürü

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Introduction

Congenital anomalies of the uterus are frequently asymptomatic and unrecognized. Mullerian duct anomalies can contribute to gynecologic, obstetric and fertility problems. The true incidence of mullerian duct anomalies is difficult to determine, because of the wide variation in presentation. They occur in approximately 3-4% of fertile and infertile women, 5-10 % of women with recurrent early pregnancy loss, and up to 25% of

women with late first or second-trimester pregnancy loss or preterm delivery (1-4). Obstetrical complications reported to occur more commonly with mullerian duct anomalies include increased risks of miscarriage, preterm delivery, intrauterine growth restriction, cervical incompetence, abnormal fetal presentation, pregnancy-associated hypertension, cesarean delivery, antepartum and postpartum hemorrhage (2, 5-8).

The most common cause of antepartum hemorrhage in the third trimester is placental abruption. Placental abruption is

defined as decidual hemorrhage leading to the premature separation of the placenta prior to delivery of the fetus. Abruption of the placenta can lead to serious maternal and infant morbidity, as well as perinatal or maternal death. Management of women with severe placental abruption is surgical delivery (9). Also placental abruption can be complicated, with disseminated intravascular coagulopathy or postpartum hemorrhage due to uterine atony. Postpartum hemorrhage (PPH) is an obstetrical emergency that can follow vaginal or cesarean delivery. PPH is most commonly defined as having greater than 500 ml estimated blood loss for vaginal delivery and 1000 for cesarean section. It is a major cause of maternal morbidity, and one of the top five causes of maternal mortality (10). The incidence of PPH varies 1 to 5 percent of deliveries (10, 11). If the initial management of controlling hemorrhage (fundal massage, uterotonic drugs) is not effective, secondary interventions (uterine tamponade procedures, compression sutures such as B-Lynch suture, uterine artery ligation, hypogastric artery ligation, x-ray guided artery embolisation and hysterectomy) should be considered. If the patient has a desire to conceive, B-Lynch suture should be considered as an alternative to hysterectomy.

Case

A 24 year old, multigravid and nulliparous patient (G: 3) was admitted to our clinic with vaginal bleeding and abdominal pain at 31 weeks of gestation. She had had two previous miscarriages in the past. On examination the woman was conscious, oriented but pale. Her vital signs were normal except mild tachycardia (blood pressure: 100/60 mmHg, heart rate: 96/min, body temp: 36.6 C, respiratory rate: 22 /min). On abdominal examination her uterus was contracted and tender. Abdominal ultrasonography evaluation revealed a bradycardic fetus and a retroplacental hemorrhage. Fetal biometry was concordant with 31 weeks with normal amniotic fluid index. The fetus was in transverse situs. After diagnosis of ablatio placenta she was immediately transferred to the operating room. Cesarean section was performed with low segment transverse incision. A female, 1000 gr. infant was delivered (Apgar scores were 4 and 5 in first and fifth minutes respectively). Amniotic fluid was bloody and approximately 500 cc fibrinated and defibrinated blood was drained from retro placental place. A deep uterine septum is revealed in the operation. Uterus was atonic and bleeding diffusely. Intermittent fundal massage and intravenous uterotonics used to improve uterine tonicity without any improvement. Because of worsening in homeostasis the compression suture technique of B-Lynch was performed with no 2 vicryl suture while uterine incision is open. Afterwards uterine incision was closed with continued locked sutures (Figure 1). After the practice, the patient's blood loss diminished to acceptable amounts. Intra-operative 2 units of red blood cells were given for replacement. Then the operation was finished. The patient was followed in intensive care unit postoperatively. After 12 hours her vital signs were normal and she was discharged in three days. Also postoperative weekly control was uneventful.



Figure 1. Performed B-Lynch suture in a septate uterus

Discussion

Postpartum hemorrhage is a common obstetric emergency which can lead to maternal morbidity and mortality. Surgical methods of controlling uterine bleeding by inserting compression sutures have been developed to reduce the incidence of emergency hysterectomy and to preserve fertility in these patients. B-Lynch suture is an alternative operative method for stopping postpartum hemorrhage especially in uterine atony. The chance for success of this procedure does not depend on surgical skill. With B-Lynch suture severe pressure can be achieved at the same time to both sides of uterine body. The suture provides enough compression without disturbing the anatomy. The B-Lynch suture compresses the uterus, similar to the result achieved with manual uterine compression. In case reports and small series it has successful in controlling postpartum hemorrhage caused by atony when other methods have failed. The advantage of this technique is simple to learn, safe and preserves future reproductive potential.

In a 7 year review of all uterine compression sutures for postpartum hemorrhage at one tertiary obstetric hospital, 27 B-Lynch sutures were performed. 10 patients needed additional compression suture techniques. All were done at the time of cesarean delivery. Hysterectomy was avoided in 23 of 27 women. 15 of these women were primiparous at the time of compression suture (12). In another study, Bhal and colloquies showed that, B-Lynch sutures were able to avoid hysterectomy 10 of 11 cases (13). In literature after uterine compression sutures, many successful pregnancies reported (14-16).

One fourth of women with late first or second trimester pregnancy lost or preterm delivery were associated with uterine malformations. The most common form of these malformations is septate uterus. As the shape of the uterus is changed in congenital malformation, the usage of secondary interventions in postpartum hemorrhage can be more difficult. There can be slippage or overlapping of the suture while using a B-Lynch suture. Halder A, reported a new uterine suture technique to control postpartum hemorrhage during cesarean section in congenitally malformed uterus. In his eight cases of series, hys-

terectomy was avoided in 7 patients. Long term adverse effects have not been reported in these cases (17).

Our case was the most common form of uterine malformation which is septate uterus. Because the uterine shape is not completely distorted these patients can be a candidate for a B-Lynch suture. Although we had not any technical difficulty while placing B-Lynch suture to the uterus, worried about the failure of compression suture because of two reasons. Uterine surface was too large in width, compared to a normal postpartum uterus due to fusion defect and presence of a large septum could form a handicap for compressing the anterior and posterior walls each other. After applying procedure, the bleeding was diminished dramatically. There's no such reported case from the literature regarding efficacy of B-Lynch suture in mullerian anomalies. We can assert that B-Lynch suture can be an alternative for postpartum hemorrhage even in septate uterus avoiding hysterectomy.

Conflict of interest

None declared.

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