

Successful Management of an Infected Hematometra with Office Hysteroscopy Following B-Lynch Suture

B-Lynch Sütürü Takiben Enfekte Hematometranın Histeroskopi ile Başarılı Yönetimi

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ABSTRACT

Postpartum haemorrhage (PPH) is a major cause of maternal mortality and morbidity worldwide. Uterine atony is the most common cause of PPH. Many therapies, such as oxytocin and prostaglandins, are effective in management of PPH. In cases where uterotonics fail, The B-Lynch surgical technique is used for the management of uterine atony. Although the efficacy of B-Lynch sutures in the management of severe PPH has been demonstrated, the postpartum prognosis of patients and the impact of haemostatic sutures on the uterine cavity remain matters of debate. According to previous research, compression sutures may lead to short- and long-term complications, including hematometra, pyometra, uterine necrosis and uterine synechiae. Herein, we describe a case of successful management of an infected hematometra with office hysteroscopy 2 weeks after the B-Lynch suture procedure, thereby offering hysteroscopic evacuation as an alternative where ultrasound guided suction evacuation is not possible in women who receive B-Lynch sutures.

Keywords: Hematometra; hysteroscopy; uterine atony

ÖZET

Postpartum hemoraji (PPH) dünya çapında maternal mortalite ve morbiditenin major nedenlerindedir. Uterin atoni PPH'nin en sık nedenidir. Oksitosin ve prostaglandinler gibi birçok tedavi PPH yönetiminde etkilidir. Uterotoniklerin başarısız olduğu durumlarda, uterin atoninin kontrolü için B-Lynch cerrahi tekniği kullanılır. B-Lynch sütürlerinin ciddi PPH yönetiminde etkinliği kanıtlanmış olsa da, hastaların postpartum prognozu ve hemostatik sütürlerin uterin kavite üzerindeki etkisi tartışmalıdır. Önceki araştırmalara göre, kompresyon sütürleri hematometra, pyometra, uterin sineşi ve nekroz gibi kısa ve uzun dönem komplikasyonlara neden olabilir. Burada B-Lynch sütür prosedürünü takiben 2 hafta sonra meydana gelen enfekte hematometranın histeroskopik yönetimi ve dolayısıyla ultrason eşliğinde aspirasyonla kavite tahliyesinin mümkün olmadığı durumlarda kavitenin histeroskopik tahliyesinin gerçekleştirilebileceği anlatılmaktadır.

Anahtar Kelimeler: Hematometra; histeroskopi; uterin atoni

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Postpartum haemorrhage (PPH) is a major cause of maternal mortality and morbidity worldwide, accounting for 25-30% of all maternal deaths. Immediate control of PPH is vital, as uncontrolled blood loss may jeopardize maternal life. Uterine atony is the most common cause of PPH. Many therapies, such as oxytocin and prostaglandins, are effective in management of PPH.¹ In cases where uterotonics fail, The B-Lynch surgical technique is used for the management of uterine atony. It is a safe method which allows the conservation of the uterus. This uterine compression suture technique allows uterine conservation while preventing maternal deaths in cases of severe PPH. The B-Lynch technique was first described by Christopher B-Lynch in 1997 as an alternative to more complicated surgery including hysterectomy to control PPH. The general principle of uterine compression sutures, such as the B-Lynch suture, is to approximate the posterior and anterior uterine wall and thus compress uterine vascularization and eventually stop haemorrhage.² Although the efficacy of B-Lynch sutures in the management of severe PPH has been demonstrated, the postpartum prognosis of patients and the impact of haemostatic sutures on the uterine cavity remains a matter of debate.³ According to previous research, compression sutures may lead to short- and long-term complications, including hematometra, pyometra, uterine necrosis and uterine synechiae.⁴

Herein, we describe a case of successful management of an infected hematometra with office hysteroscopy 2 weeks after the B-Lynch suture procedure, thereby offering hysteroscopic evacuation as an alternative where ultrasound guided suction evacuation is not possible in women who receive B-Lynch sutures.

CASE REPORT

A 32-year-old patient with a prior C-section (caesarean section) underwent an elective caesarean section (CS). She did not have any risk factors for postpartum haemorrhage. The delivery was complicated by PPH secondary to atony, which did not respond to aggressive management with uterotonics. The bilateral uterine artery ligation was performed followed by B-Lynch sutures. Initially, a large nee-

dle with No.2 chromic catgut was used to enter and exit the uterus in the lateral lower anterior segment. The stitch was then looped over the fundus. The suture was now visible and passed over to compress the uterine fundus approximately 3-4 cm from the right cornual border. Then another stitch was taken across the posterior lower uterine segment. After a loop back over the fundus and its anchoring by entrance of the lateral lower anterior uterine segment opposite and parallel to the initial bite, the free ends were tied down securely with a double knot followed by two or three further knots to secure tension while maintaining the compression of the uterus. After the application of the B-Lynch sutures, PPH was controlled. Following adequate blood transfusion, the patient was stabilized with haemoglobin 10,2 g/dL and postoperative period was uneventful without major complication. Ceftriaxone 1 gr twice daily iv and metronidazole 500mg three times a day iv were administered for 5 days. At 6th day of hospitalization, the patient was discharged with oral cefuroxime 500 mg twice daily and metronidazole 500 mg three times a day po for a week and without any complication.

The patient presented 2 weeks postpartum with fever and lower abdominal pain. A vaginal examination revealed foul smelling lochia. The uterus was enlarged and boggy and tender during the examination. An ultrasound scan revealed an enlarged cavity with loculated fluid collection suggestive of hematometra (Figure 1). The patient's haemoglobin was 10.2 g/dL. Her white blood cell count was 18510/uL and platelets were adequate. The C- reactive protein level was 258 mg/L. There was bacterial growth in a blood culture. We planned ultrasound guided suction evacuation for the removal of infected hematometra. However we couldn't enter the uterine cavity due to severe occlusion caused by sutures at the cervico-isthmic region. Thereafter we decided to perform hysteroscopy. The hysteroscope was used to diagnose the cause of obstruction at the cervical canal. We performed hysteroscopy using vaginoscopic approach. Hysteroscope could pass through the external cervical orifice but could not move furthermore. At the level of cervico-isthmic region where the occlusion occurred, we noticed the suture material. Under di-

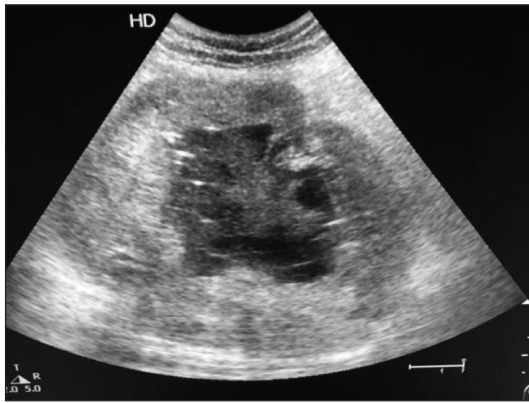


FIGURE 1: Ultrasound picture showing hematometra; loculations and blood entrapment in the uterine cavity.

rect vision, absorbable suture material causing occlusion at isthmus region was removed by scissors to access the uterine cavity. Accordingly, infected hematometra drained spontaneously. After hysteroscopy ceftriaxone 1 gr twice daily iv and metronidazole 500 mg three times a day iv were administered for 3 days. Follow-up of the patient was uneventful. Three days post-hysteroscopy, the patient was discharged afebrile and pain free.

DISCUSSION

A B-Lynch suture is an effective surgical modality in the management of PPH resistant to uterotonics. However, there is evidence of complications following uterine compression sutures, especially B-Lynch sutures at the level of the isthmus. According to previous research, such sutures may impair the drainage of the cavity and lead to blood entrapment culminating in infection.⁵ Ochoa et al reported pyometra 4 weeks postpartum, with fever and an enlarged uterus filled with infected lochia.⁶ Treloar et al. and Joshi and Shrivastava reported two cases of uterine necrosis following B-Lynch sutures.^{7,8} To prevent such complications, it is vital that PPH is properly managed immediately after surgery. Herein, we performed office hysteroscopy just after surgery and removed suture material to avoid further septic complications such as uterine necrosis or pyometra. Delayed intervention may cause morbidity. It's certain that ultrasound guided suction evacuation must be the treatment of choice for the removal of infected

hematometra. Yet when it's not possible to perform this method due to occlusion at cervico-isthmus region caused by sutures, office hysteroscopy may be considered as another tool for endometrial evacuation.

Although there is no guideline recommending routine office hysteroscopy following B-Lynch sutures; based on the literature, the need for routine uterine cavity evaluations in cases of uterine compression sutures has been emphasized.² Herein we would like to recommend frequent sonographic evaluation of the cavity as a simple diagnostic tool for the early determination of complications such as hematometra. Another point to consider is that primarily a large number of minor hematometra are asymptomatic and self resolving. However if the hematometra is large and infected or the patient is symptomatic, ultrasound guided evacuation or hysteroscopy must be considered. Otherwise there might be undesired short and long term complications such as infection and synechiae.

In women who receive B-Lynch sutures and later develop infected hematometra, hysteroscopy seems to be an appropriate alternative for the evacuation of the cavity when suction evacuation fails. However hysteroscopy must be performed carefully since the possibility of uterine perforation is rather high in an early puerperal uterus.

In conclusion, it is important to be aware of the possible complications associated with compression sutures. Post-operative follow-up, is necessary in these cases to ensure early identification of complications. Frequent sonography may be appropriate for the follow up. In patients with infected hematometra following B-Lynch sutures, when ultrasound guided suction evacuation is not possible, we recommend hysteroscopy, to prevent further septic complications and uterine ischemia.

Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

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