



Case Report

Surgical Management of a Post-Partum Haemorrhage due to Uterine Atony by B-Lynch Suture in a Young Cameroonian Woman at the Yaoundé Central Hospital, Cameroon

Traitement chirurgical d'une hémorragie du post partum par suture de compression B- Lynch chez une jeune femme à la Maternité Principale de Yaoundé

Florent Ymele Fouelifack¹, Jeanne Hortence Fouedjio¹, Danielle Victoire Tiako Kamga²

RÉSUMÉ

The B-Lynch suture is a form of suture compression used in obstetrics to perform mechanical compression on a sluggish uterus in response to severe postpartum haemorrhage. We present a case a 27-year-old Cameroonian woman, where general measures and medical treatment did not stop the bleeding. Surgical management succeeded by B-Lynch suture. After literature review, we suggest to practitioners, to think of performing B-lynch's suture before any possible radical surgery in case of postpartum haemorrhage due to uterine atony.

¹Yaoundé Central Hospital, Cameroon PO Box 31186 Yaounde, Cameroon.

²Medical Center of the Presidential Guard, Yaoundé.

Correspondence to:
Dr Fouelifack
Email: yfouelifack@yahoo.fr

Key words: Postpartum haemorrhage - Uterine atony – B-Lynch suture – Cameroon
Mots-clés: hémorragie de la délivrance – atonie utérine – suture B-Lynch ; Cameroun.

ABSTRACT

La suture B-Lynch ou procédure B-Lynch est une forme de suture de compression utilisée en gynécologie . Elle est utilisée pour comprimer mécaniquement un utérus atone souffrant d'une hémorragie de la délivrance sévère et permet d'éviter une chirurgie radicale qui compromet la fertilité future. Les auteurs présentent le cas d'une jeune femme de 27 ans chez qui cette méthode a été appliquée avec succès après échec du traitement médical.

INTRODUCTION

Postpartum haemorrhage (PPH) accounts for 20-25% of maternal deaths worldwide [1]. The main cause is uterine atony [2]. It complicates 2-5% of deliveries by the vaginal delivery [3]. The management of PPH by uterine atony is multidisciplinary and associates the treatment of haemorrhagic shock and haemostasis disorders with obstetric procedures whose speed of execution is an important prognostic factor. It includes adequate resuscitation, general measures such as uterine revision, exploration of the genital tract, uterine massage, placement of a permanent bladder catheter, manual or aortic compression, administration of utero tonics and transfusion of blood derivatives. Failure of routine obstetric procedures and well-conducted medical treatment may justify vascular hemostasis such as hysterectomy, ligation of the uterine arteries, ligation of hypo gastric arteries [4,5] or ligation by B-Lynch's technique. We present a case where general measures and medical treatment did not stop the bleeding. Surgical management succeed by B-Lynch suture.

CASE PRESENTATION

This was the case of Miss BA, a 27-year-old teacher, single and Catholic. She was received urgently in the Gynecology and obstetrics Unit of the Yaoundé Central Hospital, referred from a peripheral health center for postpartum haemorrhage.

The onset of symptomatology would go back a few minutes after premature birth of a male newborn weighing 2800 g, APGAR 8 and 10/10, at 35 weeks of gestational age. Ten international units of Oxytocin and 1 milligrams of ergometrine were injected intramuscularly. The occurrence of abundant red per vaginal bleeding, with clots motivates uterine massages, preceded by a uterine revision which brought back membranes. The evolution was marked two hours later by the persistence of the reddish bleeding without clot, associated with an intense asthenia that motivates the transfer of the patient in our service.

This pregnancy was the second and had been complicated by postpartum haemorrhage at 35 weeks and 4 days. The patient had done only 2 antenatal visits, in a health center. The basic blood pressure was 110/70

millimeters of mercury, the basic weight, 63.5 kilograms. The patient received iron and folic acid supplementation, anti-malarial prophylaxis (2 doses of Sulfadoxine-Pyrimethamine), anti-tetanus vaccine (2 doses), and she slept under long lasting nets. The biological assessment performed during pregnancy included: blood group (O Rhesus positive), negative HIV serology, negative albuminuria and negative glycosuria, negative syphilis test, and fasting blood sugar of 1.04 grammes / litre. AgHbs serotypes, toxoplasmosis, rubella and its hemoglobin electrophoresis were not known. A single ultrasound was performed in the first trimester of pregnancy and concluded a 10 week intra-uterine mono-fetal pregnancy.

Concerning the past history, the first pregnancy had proceeded normally and resulted in 2006 in a normal delivery of a female newborn of unknown weight. The second pregnancy was one with postpartum haemorrhage. She had her first menses when she was 14, the first sexual intercourse at 17 years. She bled regularly for 3 days every 28 days. She had never performed a cervico-vaginal smear. The patient had never undergone surgery and there was no evidence of chronic hereditary or familial disease. She had never had a blood transfusion and her blood group was O, positive Rhesus.

The systematic inquiry revealed, besides the main complain, red abundant vaginal bleeding, physical asthenia, restless, hyper sudation and intense thirst.

On physical examination, the patient was obsessed. The haemodynamic parameters revealed haemorrhagic shock syndrome: blood pressure at 60 / 40 millimetres of mercury, pulses and cardiac rhythm at 112 beats per minute, respiratory rate at 28 cycles / minute, temperature at 36 ° Celsius. The extremities were cold and the peripheral pulses of small volume. Conjunctivae and skin were pale. The thorax was symmetrical, mobile with respiration, and there was a tachycardia, a holosystolic murmur of intensity 2/6. The lungs were clinically clear. The abdomen was supple, movable with respiration, and the uterus measured about 20 cm of flaccid consistency. Examination of the genital organs revealed the presence of a bright red active bleeding (large packing with a towel all soaked in blood was removed from the vagina). No laceration of the genital tract had been objectified, and uterine revision did not bring back placental debris. The uterus was limp and measured about 20 cm.

Our working diagnosis was postpartum haemorrhage due to uterine atony complicated by hypovolemic shock. The differential diagnosis was disseminated intravascular coagulation.

Emergency management consisted of the administration of two central venous lines, call to the resuscitator and haematologist, continuous uterine massage, administration of utero tonics (40 units oxytocin IV, methylergometrine 02 IM ampoules and 04 tablets misoprostol intrarectally), Trendelenburg position and oxygenation, indwelling catheter. The emergency results showed severe anemia at 6.7 grams of haemoglobin /

deciliter, a thrombocytopenia at 87,109 platelets / liter. The other lab tests (TP, TCK) were within normal limits. Four units (2000 millilitres) of fresh whole blood were transfused.

Evolution under this medical treatment 30 minutes later, marked by a lifting of the signs of shock, but the persistence of vaginal red bleeding with permanent relaxation of the uterus, motivated an emergency laparotomy for hemostasis. Perioperative findings were uterine atony without rupture. Conservative surgery by B-lynch suture was performed (figure1) and the patient received a fresh whole blood (500 millilitres) during surgery and 1000 millilitres of packed red blood cell after.



Figure 1: Aspect of the uterus after B-Lynch suture.

The postoperative sequences were simple under parenteral antibiotics based on ceftriazone 1 g every 12 hours for 48 hours, associated with painkiller: paracetamol 500 mg every 6 hours. Prophylactic anticoagulants: Enoxaparin 40 IU per 24 hours in SC for 5 days. The oral relay was initiated on the 3rd postoperative day with Amoxicillin + clavulanic acid: 1 g every 12 hours for 7 days, paracetamol 500 mg 1 tablet three times daily, iron and acid folic. The post-operative period was uneventful; the patient was discharged on the 6th postoperative day. She was seen in postpartum consultation 6 weeks later and the physical exam was normal.

DISCUSSION

The B-Lynch suture or the B-Lynch procedure is a form of suture compression used in Obstetrics. It is used to perform mechanical compression on a sluggish uterus in response to severe postpartum haemorrhage. It was developed by the English obstetrician Christopher Balogun-Lynch [6,7]. The technique was described in 1997 [8, 9]. It can stop postpartum haemorrhage by preserving fertility [10]. It is considered "the best form of the conservative surgical approach to control PPH by uterine atony because it contributes to the preservation of the anatomical integrity of the uterus" [11].

The B-Lynch suture technique has been successfully used in all cases described from 1989 to 1995 by the first author (B-Lynch). B-lynch suture compression allows uterus conservation and fertility as some authors testify, since the absorbable thread left on the uterus during the suture would not generally lead to problems with future pregnancies [6, 12]. Our patient was young and pauciparous, and the future fertility was desired. This B-Lynch suture helped to stop the bleeding. The illustrations show that the sutures are placed far from the uterine horns without compression of the vessels or of an important neighbourhood organ (figure1). The bladder, ureter, large vessels and intestines were examined at each occasion. The immediate haemostatic result of this technique can be seen before closing the abdomen if the patient is in Trendelenburg position.

The other recommended techniques that could be used to stop the bleeding if B-Lynch suture failed are the hypogastric artery ligation or the embolization of the uterine arteries, subtotal or total hysterectomy, but the risk of failure may be high [4,5]. These techniques are not easy to perform and do not guarantee adequate control of postpartum haemorrhage, especially when there is coagulopathy and diffuse bleeding from the associated atonic uterus. Our technical platform does not allow us to embolize uterine arteries. The B-Lynch

suture should therefore be considered as a procedure of choice in the PPH before any radical surgery is envisaged in our setting.

This technic until now has been little known and little practiced in our environment. In the case of PPH due to uterine atony, given the inadequacy of the technical platform in developing countries, hospital practitioners have to master and think to B-lynch's suture in priority to the others haemostatics ligatures, before a possible radical surgery.

ACKNOWLEDGMENTS

We acknowledge the patient to have given her informed consent to write and submit this manuscript for publication.

CONFLICTS OF INTEREST

The authors declare that there is no conflict of interest regarding the publication of this article.

CONSENT

The patient was sufficiently anonymized according to ICMJE guidelines. She gave her consent for the manuscript and accepted that pictures should be taken and published for science purpose if necessary.

REFERENCES

1. Service de Gynécologie Obstétrique - Université Paris 7 Diderot & Hôpital Lariboisière -2 rue Ambroise Paré - 75475 Paris cedex 10.
2. WE Roberts. Emergent obstetric management of postpartum hemorrhage. *Obstet Gynecol Clin North Am*, 1995; 22: 283-302.
3. Bield DR. Antepartum and postpartum hemorrhage. In : Shnider, Levinson, eds. *Anesthesia for obstetrics* . 2nd Ed. Baltimore : Williams & Wilkins ; 1987.
4. Varner M. Obstetrics emergencies (postpartum haemorrhage). *Crit Care Clin* 1991; 7: 883-897.
5. Grotgut CA, Larsen FW, Jones MR, Livingston E. Erosion of a B-Lynch suture through the uterine wall: a case report. *The Journal of reproductive medicine*. 2004;49(10):849-52.5.
6. B-Lynch C. A worthy son of Sierra Leone; an inspiration to us. *Awareness Times*. November 2, 2006. Retrieved 1 October 2012.
7. El-Hamamy, E; B-Lynch, C (2005). *Journal of Obstetrics and Gynaecology*, cited at Informa healthcare 25 (2): 143-149.
8. Coker A, Lawal AH, Abu J, Cowen MJ. The B-Lynch surgical technique for the control of massive postpartum haemorrhage: an alternative to hysterectomy? Five cases reported. *BJOG: An International Journal of Obstetrics & Gynaecology*. 1997;104(3):372-5.
9. Danforth DN, Gibbs RS. *Danforth's obstetrics and gynecology*: Lippincott Williams & Wilkins; 2008. p. 455.
10. Studd J. *Progress in obstetrics and gynaecology* vol11. 2006. Elsevier Science Limited. p. 269.
11. Saxena R. *Tips and tricks in operative obstetrics and gynecology*: JP Medical Ltd; 2011.
12. Koh E, Devendra K, Tan LK, B-Lynch suture for the treatment of uterine atony. *Singapore Med J* 2009; 50(7): 693