

Case Report

The use of B-Lynch Technique and Lasso-Budiman Technique to Control Postpartum Hemorrhage in Uterine Atony

Penggunaan Teknik B-Lynch dan Teknik Lasso-Budiman untuk Penanganan Perdarahan Pascapersalinan akibat Atonia Uteri

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Abstract

Objective: To evaluate the use of B-Lynch Technique and Lasso Budiman Technique as conservative way to control post partum hemorrhage due to uterine atony.

Method: The cross-sectional retrospective study in Department of Obstetrics and Gynecology, Tangerang General Hospital, Banten, year 2005 - 2008 and Department of Obstetrics and Gynecology, Wonosobo General Hospital, Central Java, year 2003 - 2008.

Results: Total 38 post partum hemorrhage cases managed conservatively using B-Lynch technique and Lasso-Budiman technique. Twenty-six cases were done at Wonosobo General Hospital using B-Lynch technique, with 1 failure case and hysterectomy was done with good result. No complications has been reported for the rest 25 successful cases. Twelve cases were done at Tangerang General Hospital, using Lasso-Budiman technique, 1 failure reported, continue to hysterectomy. Among 11 successful cases, 2 complications were found. Ssecondary amenorrhea after performing Lasso-Budiman technique due to uterine sinechia were reported.

Conclusion: The B-Lynch technique and Lasso-Budiman technique, both are simple, easy, and effective to control post partum hemorrhage due to uterine atony. If failed, hysterectomy is the last choice. These techniques are also effective methods to conserve uterus and fertility.

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Keywords: postpartum hemorrhage, conservative methode, B-Lynch technique, Lasso-Budiman technique

Abstrak

Tujuan: Melakukan evaluasi penggunaan teknik B-Lynch dan teknik Lasso-Budiman sebagai cara konservatif untuk penanganan perdarahan Pascapersalinan yang disebabkan oleh atonia uteri.

Metode: Studi potong-lintang retrospektif, di Departemen Obstetri dan Ginekologi, RSUD Tangerang, Banten pada tahun 2005 - 2008 dan Departemen Obstetri dan Ginekologi, RSUD Wonosobo Jawa Tengah pada tahun 2003 - 2008.

Hasil: Terdapat total 38 kasus perdarahan persalinan yang dilakukan penanganan menggunakan teknik B-Lynch dan teknik Lasso-Budiman. Sebanyak, 26 kasus dikerjakan di Rumah Sakit Umum Wonosobo Jawa Tengah dengan menggunakan teknik B-Lynch dan ditemukan 1 kasus kegagalan, yang berakhir dengan histerektomi. Komplikasi tidak ditemukan pada 21 kasus yang berhasil. Terdapat 12 kasus dikerjakan di Rumah Sakit Umum Tangerang, Banten, dengan menggunakan teknik Lasso-Budiman. Ditemukan 1 kasus kegagalan yang berakhir dengan histerektomi dan dari 11 kasus yang berhasil, ditemukan 2 kasus mengalami komplikasi, amenorea se-kunder pascatindakan yang disebabkan oleh sinekia uterus.

Kesimpulan: Teknik B-Lynch dan teknik Lasso-Budiman, keduanya merupakan teknik yang aman, sederhana, mudah, dan efektif untuk menghentikan perdarahan Pascapersalinan yang disebabkan oleh atonia uteri. Bila terjadi kegagalan, histerektomi adalah pilihan terakhir. Kedua teknik tersebut juga merupakan metode yang efektif untuk mempertahankan uterus dan fertilitas.

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Kata kunci: perdarahan Pascapersalinan, metode konservatif, teknik B-Lynch, teknik Lasso-Budiman

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INTRODUCTION

"Women are not dying because of a disease we cannot treat. They are dying because societies have yet to make the decision that their lives are worth saving."
Mamoud Fathalla, President of the International Federation of Gynecology and Obstetrics (FIGO), World Congress, Copenhagen 1997

Postpartum hemorrhage is still one of the most three well known messengers of death in obstetric practice in developing countries as Indonesia, after infection and eclampsia. It is classical problem. History wrote Mumtaz Mahal (1630 - Wife of Emperor Shah Jahan) and Princess Charlotte Augusta of Wales (1817) both died from massive postpartum hemorrhage. In our country, we have RA Kartini: this Indonesian feminist died of postpartum hemorrhage four

days after giving birth to her first son, at the age of 25 in 17 September 1904. The same tragic fate that happened to Kartini still occur yearly to Indonesian mother.¹⁻³

Table 1. Maternal Mortality Rate in Indonesia and Southeast Asia Countries.

MMR year 2008	Maternal Mortality Rate (MMR) year 2000 (* /100.000 life birth)				
Indonesia	Indonesia	Malaysia	Thailand	Filipina	Vietnam
228	307	41	44	170	160

From the above statistics, the maternal mortality rate in Indonesia is still the highest among Southeast Asian nations.^{2,3}

Within the last decade, many new methods have been discovered to overcome postpartum hemorrhage, which are expected to lower maternal mortality rates. One of them is the B-Lynch technique, first introduced by Christopher B. Lynch of England in 1997. In Indonesia, a similar conservative technique has been practiced: the Lasso-Budiman technique was first used by Budiman in 1990. There have been no publications of this technique after its first implementation. The purpose of this writing is to evaluate the successfulness of both techniques in overcoming postpartum hemorrhage.^{1,4-6}

METHOD

The cross-sectional retrospective study (an investigation of medical records) was done in the Department of Obstetrics and Gynecology, Tangerang General Hospital, Banten, in 2005 - 2007, and in the Department of Obstetrics and Gynecology, Wonosobo General Hospital, Central Java, in 2003 - 2007. The population of the research comprised of all postpartum hemorrhage patients that are unsuccessfully handled by the medical treatment and non-surgical conservative management. The criteria of success is the stopping of hemorrhage vaginally after the implementation of the technique. The collected data are then analyzed descriptively.

Table 3. Management of Postpartum Hemorrhage.^{8,9}

Acronym	Management	Category
H	Help. Ask for help.	<i>Initial Management</i>
A	Assess (vital parameters, blood loss) and resuscitate.	
E	Establish aetiology, ensure availability of blood, ecbolics (oxytocin, ergometrine, or syntometrine bolus IV/IM).	
M	Massage Uterus.	
O	Oxytocin infusion, ergometrin bolus IV/IM, prostaglandins per rectal.	<i>Medical Management</i>
S	Shift to the theatre. Exclude retain products and trauma, bimanual compression, abdominal aorta compression.	<i>Conservative Non-surgical Management</i>
T	Tamponade balloon and uterine packing.	
A	Apply compression uterus, B-Lynch technique or modified, Lasso-Budiman technique.	<i>Conservative Surgical management</i>
S	Systemic pelvic devascularization: uterine, ovarian, quadruple, internal iliaca.	
I	Interventional radiologist, if appropriate, uterine artery embolization.	
S	Subtotal/total hysterectomy.	<i>Non-conservative surgical Management</i>

RESULT

There were a total of 38 cases of postpartum hemorrhage handled using the B-Lynch and Lasso-Budiman techniques, 26 of which were in Wonosobo General Hospital, Central Java, using the B-Lynch technique, with 1 failure case ending with hysterectomy. There were no complications found on the 21 success cases. Of the 34 cases, 12 were done in Tangerang General Hospital, Banten, using the Lasso-Budiman technique. There was 1 failure case ending with hysterectomy; and of the 11 success cases, there were 2 cases of complications: the occurrence of post-treatment secondary amenorrhea which was caused by synechia in the inside wall of the uterus.

Table 2. B-Lynch and Lasso-Budiman Technique: Success, Failure and Complications.

Technique	Cases	Success	Failure	Complications
B-Lynch	26	25 (96%)	1 (4%)	-
Lasso-Budiman	12	11 (91%)	1 (7%)	2 (14%)
Total	38	36 (94%)	2 (6%)	2 (6%)

DISCUSSION

Obstetrics is "bloody business".⁷ The obstetrics field have always been related to blood. Obstetric hemorrhage is divided into antepartum hemorrhage and postpartum hemorrhage. According to WHO, the definition of postpartum primary hemorrhage is the loss of 500 ml of blood or more vaginally, within 24 hours of labor. Meanwhile, postpartum secondary hemorrhage is when the above occur after 24 hours.^{8,9}

In postpartum hemorrhage management, a quick and correct treatment order will lead to a higher success rate. The basic principle of postpartum hemorrhage treatment is haemostasis or the immediate stopping of the hemorrhage. To make the procedure easier to remember, the acronym Haemostasis is used.^{8,9}

In this treatment procedure of postpartum hemorrhage, the B-Lynch and Lasso-Budiman techniques is placed on the 8th step (Highlight in Table 3), and is within the category of conservative surgical management. This treatment is executed if giving medication treatment and conservative non-surgical management (the application of balloon or solid tampon to the uterus) failed to stop the bleeding on the postpartum hemorrhage.¹⁰⁻¹²

The B-Lynch technique was discovered by Christopher B-Lynch. This technique is analogous to continuous bimanual compression. The uterus itself will determine if the compression is no longer needed. The success of the implementation of this technique for the first time in 1989, on a patient with massive postpartum hemorrhage, who refused to have a hysterectomy, brought fresh air to the conservative management of postpartum hemorrhage. The first publication of this technique in 1997, on the success of implementation on 5 cases of postpartum hemorrhage in conserving the uterus and its fertility, received a good response. Until today, 1600 cases have been worked on, with 19 failure cases. The complication of uterine necrosis after using the B-Lynch technique is reported in 2 cases.^{1,10,13-15}

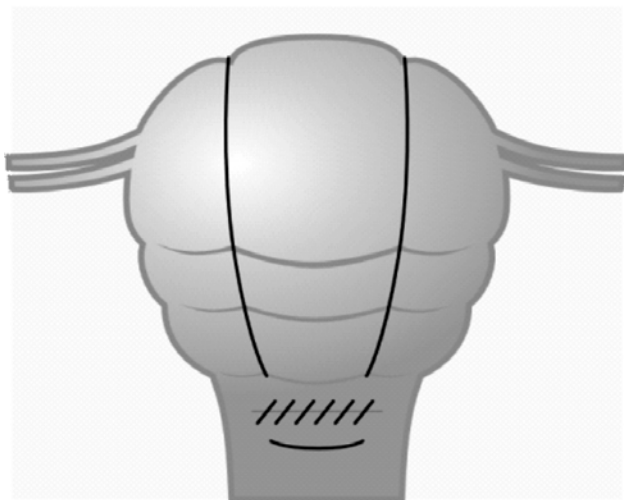


Figure 1. The B-Lynch technique.

The Lasso-Budiman technique was discovered by Budiman, first implemented in 1990 on failed case of postpartum hemorrhage using medical treatment, in Tangerang General Hospital, Banten, Indonesia. The technique is analogous to lower uterine artery ligation, using method that is easier, more conservative, and have minimal complications toward the surrounding tissues. The uterus itself will determine if the compression is no longer needed. This technique has been considered successful and has been socialized to the residents of obstetrics and gynecology working in the hospital.

It is mentioned that during 1990 - 2004, this technique was implemented in 5 - 10 cases of postpartum hemorrhage cases each year, with failures in 1 - 2 cases per year. Unfortunately there are no data specific to those years. Available medical records only

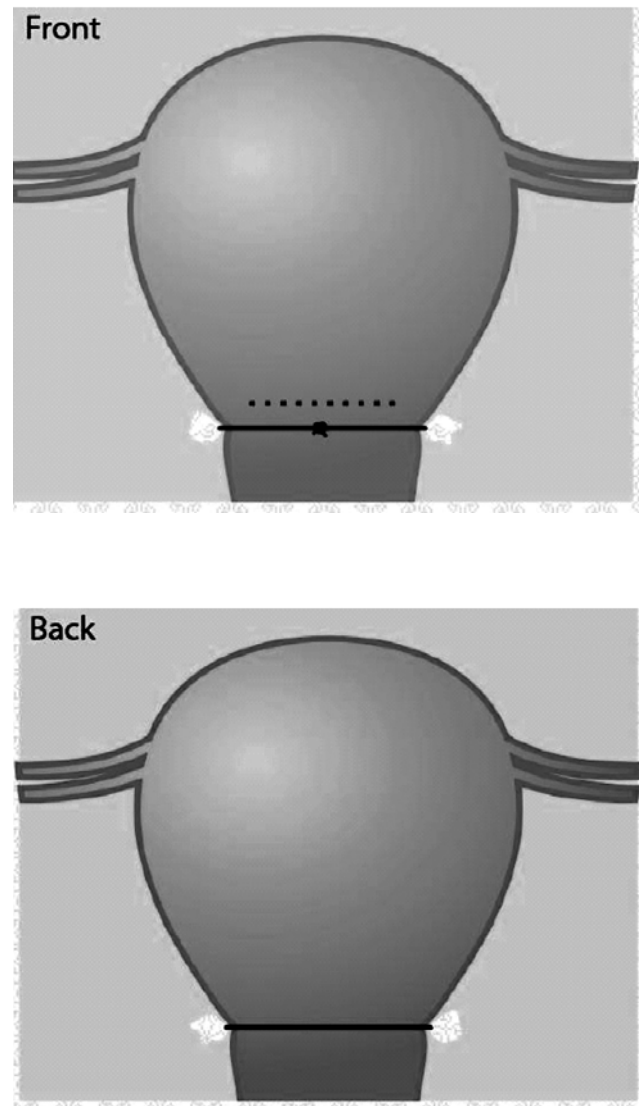


Figure 2. The Lasso-Budiman technique.

date back from 2005. This investigation found 2 cases with complications of secondary amenorrhea due to uterine synechiae. Both patients were handled well, such that the menstruation cycle returned to normal.

The case investigation in these two hospitals was not without handicaps. The two techniques mention were not written in the post surgical diagnosis, therefore the method of investigation as to follow the step-by-step operation detail reports. Both of these techniques are considered new. Training in using these techniques is crucial. Further research, registration, and follow ups are important to know the effect of using those two techniques in the future.

CONCLUSION

The B-Lynch and Lasso-Budiman techniques are both safe, simple, easy, and effective to stop postpartum hemorrhage caused by the uterine atony. In the event of failure, hysterectomy is the last alternative. Both of these techniques are also effective methods to preserve the uterus and infertility.

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