

Research Article



**Lower uterine segment postpartum hemorrhage.
management by Cervical Suture, B-Lynch Suture and Foley Balloon.**

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Abstract

Introduction: Postpartum Hemorrhage (PPH) in Egypt Especially in Rural Area is still one of the main Causes Responsible For maternal morbidity and mortality. It still needs a radical Solution. **Aim Of The Work:** Evaluation of Lower Uterine Segment Post Partum Hemorrhage Management by Cervical suture, B-Lynch suture and Foley balloon and to evaluate the efficacy and safety of a novel cervical suturing technique. **Patient&Methods:** This study included 9860 patients in obstetric department for delivery in Banha teaching hospital. It include 30 pregnant women (primigravide and multigravide) in labour admitted to obstetric ward complaining of (PPH).This study was classified into 3 Groups .Group (I): Ten cases were managed by cervical suture in vaginal delivery with cervical tear and laceration. Group (II): Ten cases were managed by B-Lynch suture 7 of them delivered by CS & 3 of them delivered by vaginal delivery then hysterotomy was done to them. Group (III): Ten cases were managed by Foley balloon after vaginal delivery or caesarian section. **Results:** The mean (\pm SD) parity for PPH cases in this study was 1.53 ± 1.13 times with a range of 0–7 times. The group representing primigravidas with postpartum hemorrhage was 43.3% of cases, while the group with parity ranging from 1– 4 was 50% of the PPH cases. Finally the group of cases with parity greater than 4 represented 6.7%. The treatment modalities for PPH applied in Banha teaching hospital included ecbolics, uterine massage and bimanual compression in all cases. Repair of trauma was applied in 33, 3%. Replacement with blood and blood products was done in cases with DIC which represented 3.3%, & hysterectomy was done in 3 cases as a last resort measure. **Conclusion and Recommendation:** The study added an evidence to confirm the world wide applicability of the cervical suturing as a method to improve the management of lower uterine segment PPH .The technique of that suture is easily learned and its popularization therefore, might be a must.

Keywords: Postpartum Hemorrhage (PPH), maternal morbidity and mortality, hysterotomy.

Introduction

Postpartum Hemorrhage is defined as blood loss of more than 500 mL following vaginal delivery or more than 1000 mL following cesarean delivery.-A loss of these amounts within 24 hours of delivery is termed early or primary PPH, where as such losses are termed late or secondary PPH if they occurred 24 hours after delivery. Another proposal suggests using a 10% fall in hematocrit value to define PPH.

Aim of the Work

Evaluation of Lower Uterine Segment Post Partum Hemorrhage Management by Cervical suture, B-Lynch suture and Foley balloon.

Patient and Methods

Patients

This study included 9860 patients in obstetric department for delivery in Banha teaching hospital. It included 30 pregnant women (primigravide and multigravide) in labour admitted to obstetric ward complaining of PPH. This study was classified into 3 Groups. Group (I): Ten cases were managed by cervical suture in vaginal delivery with cervical tear and laceration. Group (II): Ten cases were managed by B-Lynch suture 7 of them delivered by CS & 3 of

them delivered by vaginal delivery then hysterotomy was done to them. Group (III): Ten cases were managed by Foley balloon after vaginal delivery or caesarian section.

For all patients the following was done:

1- Complete history taking (Family, medical, menstrual, personal, blood transfusion).

2- Complete general, abdominal and pelvic examination.

3- Investigations: Thorough examination of the lower genital tract. Some Times, This may require theatre/anesthesia, Hourly urine output, Continuous pulse/blood pressure monitoring, ECG, pulse oximetry.

Inclusion Criteria:

Age: 18-42years.

Traumatic postpartum hemorrhage due to LUS tears.

Absence of pregnancy associated with medical disorder as DM or HTN.

Regular ANC visits.

Known LMP.

Exclusion criteria:

Extreme of edges <18 or >42.

Presence of medical disorders.

A tonic postpartum hemorrhage.

Methods:

1-Group (I): 10 patients were managed by Haemostatic cervical suturing for management of uncontrollable postpartum hemorrhage originating from the cervical canal by using no. 1 chromic catgut is a new surgical technique which approximates anterior and posterior cervical lips. It controls cervical hemorrhage by attachment and compression of the hemorrhage site of the cervical lips.

2-Group (II): included 10 patients were managed by B-Lynch suture was performed (use Monocryl suture or Vicryl number 2): The B-Lynch suture aims to exert continuous vertical compression on the uterine vascular and muscular system.

3-Group (III): 10 patients were managed by Foley balloon was inserted the tip is guided into the uterine cavity and inflated with 60–80 ml of saline a volume of 150 ml can be reached before it bursts. Additional Foley catheters can be inserted, if necessary, until bleeding stops. As attractive, easy and cheap method.

Results

The mean gestational age (\pm SD) before delivery was 38.87 ± 1.377 weeks with a range of 37-42 weeks, while that for maternal age in this study was 26.47 ± 5.931 years with range of 18-42 years. The cases <20 years were 10% of cases and the cases >35 age group was 13.4% which gave us a total no of 23.4%. While the 20-34 age group of this study represented 76.6% of the cases. The mean (\pm SD) parity for PPH cases in this study was 1.53 ± 1.13 times with a range of 0–7 times. The group representing primigravidas with postpartum hemorrhage was 43.33% of cases, while the group with parity ranging from 1– 4 was 50% of the PPH cases. Finally the group of cases with parity greater than 4 represented 6.7%. In this study the mode of delivery of the patients with postpartum hemorrhage was 46, 7% as vaginal deliveries and 53, 3% by caesarian section. The treatment modalities for PPH applied in Banha teaching hospital included ecbolics, uterine massage and bimanual compression in all cases. Repair of trauma was applied in 33, 3%. Replacement with blood and blood products was done in cases with DIC which represented 3.3%, & hysterectomy was done in 3 cases as a last resort measure.

Discussion

This study found the incidence of lower uterine segment postpartum hemorrhage to be 0.3% of total admissions to banha teaching hospital, which compared well with *Hazara et al.*, 2009 an incidence of five per 1000 deliveries (0.5%), and *Sheiner et al.*, 2010 in which Postpartum hemorrhage complicated 0.43% of all deliveries enrolled in that study. However this was less than the 4.5% reported by *Ijaiya et al.*, 2009, and 5-10% reported by *Drife*, 1997; *Glazener & MacArthur*, 2001. In this study the distribution of maternal age in relation to postpartum hemorrhage showed a low frequency of postpartum hemorrhage with extremes of age <20 & >35 in comparison with the 18-42 age group. The 18-42 age group of this study, represented 76.6% of the cases, while the <20

Table (1): Demographic characteristic of the study group.

Demography		IU balloon (I)		CX suture (II)		B-LYNCH (III)		P value
		No	%	No	%	No	%	
Age	<20&>35	3	30.0	4	40.0	0	0.0	0.09
	20-35	7	70.0	6	60.0	10	100	
Residence	Urban	3	30.0	4	40.0	1	12.5	0.3
	Rural	7	70.0	6	60.0	9	87.5	
Education	Illiterate	1	10.0	1	10.0	2	20.0	0.75
	Educated	9	90.0	9	90.0	8	80.0	
Social Class	Sub High	8	80.0	9	90.0	8	80.0	0.79
	High	2	20.0	1	10.0	2	20.0	
Mode of delivery	vaginal delivery	8	80.8	3	30.0	3	30.0	0.035*
	CS	2	20.0	7	70.0	7	70.0	

CS:caesarea section. * Statistically significant at p 0.05.

χ^2 : Chi square test. Statistically insignificant at p 0.05.

- Values are given as No.% unless otherwise mentioned.

Table (2): Success of Treatment.

Result	IU balloon (I)		CX suture (II)		B-LYNCH (III)		Total		P value
	No	%	No	%	No	%	No	%	
Succeed	6	60.0	10	100	7	70.0	23	76.7	0.09
Failed	4	40.0	0	0.0	3	30.0	7	23.3	

IU: Intra uterine. Statistically insignificant at p 0.05.

CX: cervix.

χ^2 : Chi square test.

- Values are given as No.% unless otherwise mentioned.

Table (3): Success of Treatment according to approach of delivery.

Mode of delivery	IU balloon (I)		CX suture (II)	B-LYNCH (III)		P Value
	Success	Failed	Success	Success	Failed	
vaginal delivery	6(75.0)	2(25.0)	3(100)	2(66.7)	1(33.3)	0.058
CS	0(0.0)	2(100)	7(100)	5(71.4)	2(28.6)	

CS:caesarea section. * Statistically significant at p 0.05.

χ^2 : Chi square test.

- Values are given as No.% unless otherwise mentioned.

group was 10% of cases and the >35 age group was 13, 4% with a total of 23.4%. Ijaiya et al., 2010 had similar results showing 5.1% of the postpartum hemorrhage cases in the <20 age group and 24.7% of the cases in the >35 giving a total of 29.8%. The treatment modalities for PPH applied in banha teaching hospital included ecbolics, uterine massage & bimanual compression in all cases. Repair of trauma was applied in 33.3%; Replacement with blood and blood products was done in cases with DIC which represented 3.3% & hysterectomy was done in 3cases as a last resort measure. B-lynch suture technique was done in 10 cases only, while 3 cases had hysterectomy. The percentage of cases that suffered mortality after admission to banha teaching hospital was 3.3% (1 of 30). Kaul et al., 2010 had a study that showed a maternal mortality percentage of 6.1% (11 out of 178 women) during the duration of their study. While Ijaiya et al., 2007 had a study that included 348 cases, only 3 of them had died (0.3%). This study will compromise 30 cases in obstetric attending for delivery in Banha teaching hospital.

Conclusion and Recommendation

Cervical suturing technique for management of postpartum hemorrhage originating from the cervical canal is an easy, safe and highly effective procedure. It was effective in all cases and hysterectomy was not needed in any case. No complications occurred and the survival rate was 100%. Compression sutures placed into the postpartum uterus may provide a simple first surgical step to control bleeding when routine oxytocic measures have failed. We suggest that the technique we have described is a simple procedure and should be tried before more complex interventions are used 70% of cases succeeded and 30% failed with placenta accrete need hysterectomy.

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