

## Compression Suture in Post Partum Haemorrhage- Our Experience

Partha Mukherjee, Pranab Biswas

Department of Obstetrics and Gynaecology, Nilratan Sircar Medical College and Hospital, Kolkata.

**OBJECTIVE:** To control severe P.P.H by uterine compression suture like brace suture and isthmic-cervical apposition suture. **MATERIALS AND METHODS:** Compression suture was employed in seven cases. Brace suture was used in five cases of atonic PPH, in one case only isthmic cervical apposition was done because there was bleeding from lower uterine segment due to placenta previa and in another case both type of sutures were required. In six cases the operation was done during LSCS and in one case after vaginal delivery abdomen had to be opened for placing suture. Two uterine brace sutures were applied through the lower segment with No-2 chromic catgut passing through anterior and posterior wall with tying of the knots over the fundus one on each side of midline. In isthmic cervical apposition a No-2 chromic catgut in big straight needle was passed through the uterus above the bladder reflection and about 3cm below the left lower edge of uterine incision and 2cm medial to the lateral edge of lower segment from anterior to posterior and was brought back from posterior to anterior about 1 to 1.5 cm medial to first entry and tied anteriorly. The same suture is placed on the other side keeping a closed artery forceps in the middle of cervical canal. **RESULTS:** Both brace suture and isthmic-cervical apposition suture were very effective in all cases. **CONCLUSION:** Use of compression suture makes the surgical management of atonic PPH simpler, quicker and safer.

**Key words:** PPH, compression suture.

### Introduction

Postpartum haemorrhage (PPH) is often sudden, severe, unpredictable and a potentially life threatening complication of vaginal delivery or caesarean section. Unless prompt, timely and effective action is taken to control haemorrhage maternal death could occur in a very short period of time. The longer the time taken to control bleeding, the higher the chances of maternal mortality. As uterine atony is responsible for PPH in about 80% of cases, various methods have been employed to treat uterine atony. Right intervention in the nick of time is very vital. A woman can pass into irreversible shock or die within two hours as a result of PPH. Basic management of atonic PPH is adequate fluid and blood replacement and attempts to make uterus contract by massage, oxytocin, methylergometrine or prostaglandins. If all the methods fail surgical management should be done without wasting much time. In some cases ligation of the infundibulopelvic vessels medial to ovary (excluding fallopian tubes where necessary) and the uterine vessels above the cervix on both sides, may achieve haemostasis. If the patient continues to bleed, bilateral ligation of anterior division of internal iliac artery can be done to prevent hysterectomy. Lynch<sup>1</sup> reported brace suture application to preserve the uterus. It is simple, quicker than hysterectomy or internal iliac artery ligation and thus devoid of chances of inadvertent injury to uterus or bladder. But the sutures they have described require opening of uterus through

lower segment transverse incision and the sequence of suturing is quite difficult to remember in an emergency situation. Mukhopadhyay and Arulkumaran described a simple modification of original Lynch suture which appears to be very effective. They also mentioned isthmic cervical apposition suture for effective control of bleeding from lower uterine segment in cases of placenta previa.

### Material, Methods and Results

We have applied uterine brace suture (with 'isthmic cervical apposition' suture if bleeding was from the lower segment) in seven cases from December 2000 to August 2001 where atonic PPH and placental site haemorrhage from upper or lower uterine segment couldn't be controlled by usual medical methods like continuous massage, methyl ergometrine, oxytocin, prostaglandins, hot compression etc. We applied this method in six cases during cesarean section and in one case following vaginal delivery where abdomen had to be opened for placing brace suture. Bimanual compression of uterus was done to ensure that bleeding decreased significantly. If compression proved effective in controlling the bleeding, brace sutures were placed. The uterine brace sutures were applied through the lower uterine segment with No-2 chromic catgut passing through anterior and posterior wall with tying of the knots over the fundus one on each side of midline. In two cases of bleeding from lower uterine segment (due to placenta previa), isthmic cervical apposition were done to control bleeding. A No -2 chromic catgut in big straight needle was passed through the uterus above the bladder reflection, to prevent damage to bladder and ureter, about 3cm. below the left lower edge of uterine incision and 2cm medial to the lateral edge of lower segment from anterior

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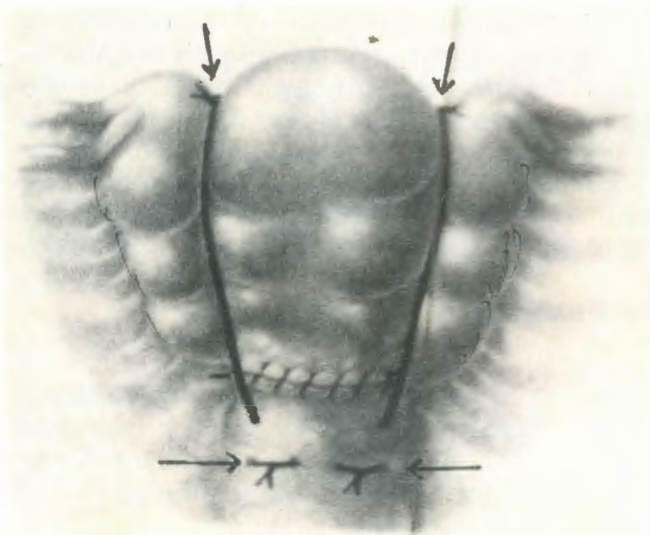
Correspondence :

Dr. Partha Mukherjee

Department of Obstetrics Gynaecology,

Nilratan Sircar Medical College, and Hospital, Kolkata.

to posterior and brought back from posterior to anterior at about 1–1.5 cm medial to the entry of the first suture and tied anteriorly. Similar suture was placed on the other side keeping a pair of closed artery forceps in the midline of cervical canal (to keep cervical canal open). In one case a second row of sutures were placed below the first row of sutures for better control of haemorrhage from large placental site. Damage to bladder and ureter were avoided by meticulous downward displacement of bladder before placing the suture and avoiding encroachment of lateral border of lower segment. (Photograph 1)



Photograph 1: Diagrammatic representation of both sutures, Upper arrows indicating brace suture

Table I: Summary of the cases

Age (years)	Parity	Gestation weeks	Presentation	Mode of Delivery	Type of PPH	Treatment
23	P0+0	37	Placenta Previa	LSCS	Atonic	Brace suture
27	P0+0	36	Placenta Previa posterior low-lying placenta covering internal os	LSCS	Placental site bleeding	Isthmic cervical apposition
31	P1+0	40	Obstructed labour	LSCS	Atonic	Brace suture
27	P0+1	35	Placenta Previa	LSCS	Atonic and Placental site bleeding	Brace suture and Isthmic cervical apposition
21	P0+0	35	Accidental haemorrhage	LSCS	Atonic	Brace suture
29	P0+3	35	Placenta Previa	LSCS	Atonic	Brace suture
29	P4+2	38	Prolonged labour	Vaginal delivery	Atonic	Brace suture

#### References

1. Lynch CB, Cocker A, Laval AH et al. The B Lynch surgical technique for control of massive post partum haemorrhage: an alternative to hysterectomy? Five cases reported. *Br J Obstet Gynecol* 1997; 104: 372–76.
2. S Mukhopadhyay, S Arulkumaran. Golden hour in the management of postpartum haemorrhage. In women's Health, Proceedings of the world congress on Women's Health 2000, organized by FOGSI and BOGS pg B 10–5.

This simple modification of Lynch technique by Mukhopadhyay and Arulkumaran<sup>2</sup> is much simpler and we followed this technique with great success. It is far less complicated than ligation of anterior division of internal iliac artery or hysterectomy. We strongly advocate this procedure. It should be tried before contemplating any other complicated surgical procedure. Summary of the cases is given in Table–I.

#### Discussion

Available methods to control PPH depend upon the cause, but in general delay in diagnosis and treatment may lead to death. Those who survive following hysterectomy may suffer from both physical and psychological damage as some of them may be pregnant for the first time. Lynch<sup>1</sup> suturing treatment is effective and its modification by Mukhopadhyay and Arulkumaran<sup>2</sup> is much simpler and equally effective. It reduces blood flow to the uterus from its lateral margins and also occludes the placental bed vessels by apposition of the anterior and posterior wall with each other. Long term follow up after brace suturing by Lynch<sup>1</sup> has shown that it has no deleterious effect on future fertility and outcome of pregnancy. We are also following the patients, some of whom already started menstruation and have no problem till now.