



## BILATERAL UTERINE ARTERY COMPRESSION. EASY GIDEON SUTURE. THE EASIEST AND VERY EFFECTIVE COMPRESSION SUTURE FOR PPH MANAGEMENT DURING CAESAREAN SECTION

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**ABSTRACT** Bilateral uterine artery compression technique (Gideon Suture) may be particularly useful because of its simplicity of application. Both sided, uterine artery compression is done and simultaneously anterior and posterior uterine wall compression is done to obliterate uterine cavity there by controlling bleeding during caesarean section if there is PPH. It is life saving, potential relative safety and its capacity for preserving the uterus and thus fertility.

### KEYWORDS :

#### INTRODUCTION

Despite advances in medical and surgical therapies post partum haemorrhage remains a significant medical problem for both the developing and developed countries.

PPH is one of the major causes of maternal mortality around the world with a reported incidence of 2-11%. Its reported incidence in India is 2 to 4% after vaginal delivery and 6% after caesarean section with uterine atony being the most common cause (50%). Further more latest figures report PPH as the contributory cause of 19.9% of maternal mortality in India. World wide accounting for 25 to 30% for all maternal deaths.

During caesarean section if PPH occurs so many compression sutures are applied till date after failure of medical treatment to save the life and fertility also.

This new easiest techniques of bilateral uterine artery compression has been successfully applied with no morbidity and mortality till date.

#### MATERIAL AND METHOD

This is a very simple variation of uterine compression suture techniques. For which the preliminary results appear to be as effective as the original B lynch, Hayman and Pereira, Cho Suture and their modifications. This new suture may reduce the risk of complications.

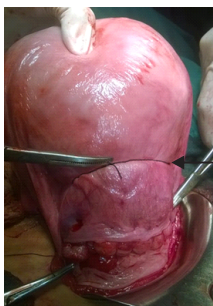
A new uterine artery compression suture performed in District Hospital Sagar (M.P.) from 1st January 2017 to till date, during caesarean section.

All the women signed a written informed consent before their operation.

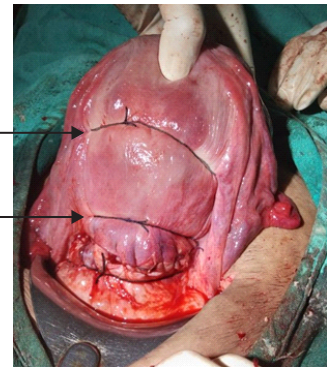
Suture applied in these indicated cases :

1. In Atonic PPH.
2. Placenta Previa.
3. In Rupture of uterus.
4. After Suturing of lower uterine segment incision if incision line bleeds.
5. When uterine incision extended laterally and bleeds.
6. Prophylactically - In prolonged labour, NPOL, Preeclampsia and Eclampsia, Over distended uterus (large baby), multiple pregnancies, multi gravida and obstructed labour.

This bilateral uterine artery compression suture were applied only in caesarean section not in PPH followed by normal delivery.

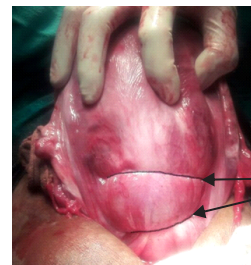


**Gideon Suture On Anterior Surface**

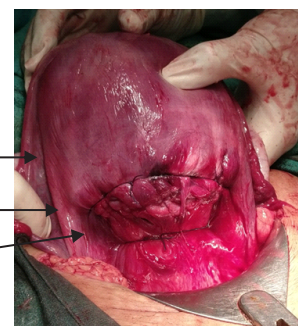


**Gideon Suture 3<sup>rd</sup>**

**Gideon Suture 2<sup>nd</sup>**



**Gideon Suture on Posterior Surface of Uterus**



**Fallopian Tube**

**Round Ligament**

**Avascular Area**

#### SUTURE MATERIAL

A monocril suture vicryl no. 1 or catgut is used because it is user friendly with uniform tension distribution and it is easy to handle and absorbable. As it is absorbable it does not cause problems, when uterus is involuted. Such as obstruction and strangulation of pelvic organs by cutting off the blood supply to the tissues and organs trapped with in the loose loops and also a vascular necrosis.

#### STEPS OF METHOD

Pfannenstiels incision is made and the uterus exteriorised. After bimanual massage of the uterus for a few minutes, Bilateral uterine artery compression suture placed. Using (vicryl no. 1) absorbable suture needle inserted first on left side at LUS incision, anterior to posterior medial to round ligament and laterally to lateral border of uterus through transparent area (A vascular area of broad ligament).

Going posteriorly, encircling post wall of uterus taking care that omentum or loops of intestine not coming on the way or below suture. Then needle is inserted on right side from posterior to anterior side through avascular area, between round ligament and lateral wall of uterus and then a double knot tied in the centre below incision line as tightly as possible.

Such one or two more sutures can be placed above incision if uterus is atonic. It can be placed upto the level of fallopian tube insertion (cornual end).

The success of the procedure is immediately visible because blood flow through the uterus is staunched. Because both sided uterine arteries are compressed tightly as well as both anterior and posterior walls are brought together, obliterating uterine cavity. Haemorrhage is checked immediately. Uterus gives hard feeling.

In some cases there is bleeding or oozing through stitches on incision line, in such cases if Gideon Suture is placed as it travers transversely just below or above incision line tightly, bleeding is checked immediately.

After completion of caesarean section P/S done - No bleeding found.

**OUR EXPERIENCE**

We have been putting this Bilateral uterine artery compression suture (Gideon) since January 2017 to till date and this suture was applied to 55 cases. Result - No morbidity and mortality seen.

One case Gravida 14th, Para 12, 1 died, 1 abortion, 11 live - Referred from PHC with obstructed labour unbooked patient. She was immediately taken for caesarean, arranged 20 of blood.

On opening abdomen there was rupture in LUS and through that back of baby was visible and protruding. Baby delivered by Patwardhan technique because head was deeply engaged, bladder was very high. Baby handed over to paediatrician.

**Comparison between Other Compression Sutures & Easy Gideon Suture**

S. No.	Other Compression Sutures	Easy Gideon Suture
1.	First uterine artery ligation is done then Blynch or Cho sutures are applied.	Compressing both sided uterine artery which are travelling up words on lateral wall of uterus. As well as opposing both ant and post walls of uterus obliterating uterine cavity.
2.	Takes lots of time in finding uterine artery first on one side and then on other side. There are chances of ureter ligation also.	Very easy takes 30 to 40 seconds.
3.	One has to go through uterine cavity from ant to post walls or upto fundus.	No need of going through cavity.
4.	Needs trainings to do these compression sutures because difficult to do.	Easily learn by any obstetrician because simple technique at CHC level with less facilities performed there are no chances of PPH.
5.	As there is penetration of cavity so more chances of late complications like Haematometra, Pyometra, Asherman's Syndrome.	No penetration through cavity so no chances of complications like Pyometra, Asherman's Syndrome, Haematometra.
6.	It may be linked to the square dead space in the uterine cavity where endometrial necrosis may occur. Uterine wall partial necrosis can occur. Partial thickness necrosis vertically placed compression suture using Blynch and Hayman technique may obstruct uterus, arcuate blood vessels which run transversely leading to uterine necrosis. Occluding the cervical lumen is a potential complication when transverse compression sutures are placed.	No uterine wall partial thickness necrosis.

**CONCLUSION**

Bilateral uterine artery compression suture (Gideon Suture) is very effective, simple to place, easy to learn for PPH management in caesarean section. As not going through uterine cavity no complications occur as seen in other compression sutures.

Both uterine artery as well as anterior and posterior walls are compressed simultaneously leading to quick check of haemorrhage.

At CHC level where less staff and less facilities are there, if this suture is placed we can save the mother due to PPH which is the leading cause of maternal mortality. .

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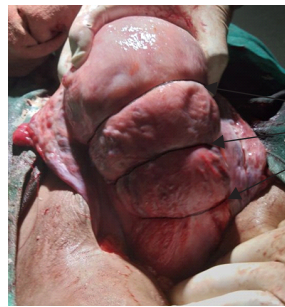
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We found collection of blood all over uterus, in broad ligament even going upto posterior cul de sac. Both sided large haematoma found. Uterus was very large and flabby.

Decided to do caesarean hysterectomy but we found lots of haematoma and collection of blood due to multiparity. All tissues were very friable and loose spaces were filled with blood. Keeping in mind that if we removed uterus profuse bleeding may occur we stitched first rupture. It was very irregular even bladder was adherent to lower uterine segment. Carefully stitched in single layer than one by one 6 Gideon Sutures applied tightly and carefully. We found uterus became hard. All bleeding from rupture side checked.

P/S done no bleeding seen.

Postoperative period was uneventful. 20 of blood given. Uterus involuted well. Patient discharged on 10th day with both baby and mother saved.



**Gideon Sutures on Posterior Surface of Uterus for Rupture Uterus**

**DISCUSSION**

The rising caesarean section rate, adds to the rising incidence of PPH. The different uterine compression suture techniques have proved to be valuable and safe alternative to hysterectomy in the control of PPH but this Gideon Suture is also very effective and easy to perform

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