



PROPHYLACTIC BILATERAL INTERNAL ILIAC ARTERY LIGATION, IN PREVENTION OF PPH, IN A CASE OF MULTIPLE LARGE INTRA MURAL FIBROIDS

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KEYWORDS :

INTRODUCTION

Postpartum haemorrhage is defined as a blood loss of more than 500ml after delivery of the placenta. It is a clinical diagnosis that encompasses excessive blood loss after delivery of the baby from a variety of sites: uterus, cervix, vagina and perineum¹

It is the leading cause of maternal death, responsible for approximately 68,500 deaths a year, 99.7% occurring in developing regions²

In India, PPH, which is exacerbated by widespread anemia among pregnant women, accounts for 38 percent of maternal deaths. The speed with which death from PPH occurs presents a major challenge in settings with poor communications and referral systems and shortages of necessary drugs and equipment.

When PPH continues despite aggressive medical management, surgical intervention is considered. In most catastrophic situations, hysterectomy is preferred in order to arrest further blood loss. Although a life-saving procedure, it may not be appropriate for women who need to preserve their reproductive potential. Haemostatic procedures that preserve the uterus include uterine cavity tamponade, selective uterine artery embolisation, uterine artery ligation and uterine brace sutures.

In cases with anticipated PPH, prophylactic B/L internal iliac artery ligation can be considered to minimise intraoperative blood loss

Case Report

30yr/F, Primigravida 38.2(6.2)wks came to MGM Kalamboli with USG s/o SLIUP of 33.4wks, transverse lie with EFW of 2.2kgs, posterior low lying placenta 1.9cm away from internal OS, AFI 18cm,

- 10x7cm fibroid in posterior wall
- 14X7cm fibroid in the anterior wall lower segment

MRI done s/o

- 17x13.6cm intramural fibroid in lower uterine segment left anterolateral region
- 7.1x 6.6cm intramural lesion seen in fundal region
- No e/o placenta accrete/increta

Patient was posted for Elective LSCS with B/L internal iliac artery ligation after 4days

Intra Operative Findings

Patient induced under spinal anaesthesia, supine position was given. After Midline vertical incision of 15cm, abdomen was opened in layers. Uterus was exteriorised for adequate visualization of uterus with fibroids.

2 large fibroids, first, in the fundo-posterior region of about 16x14cm was seen and the second fibroid was seen anterolaterally on the left side which was about 10x12cm.



Fig 1. Midline vertical incision

Fig 2. Top view of uterus with fibroids

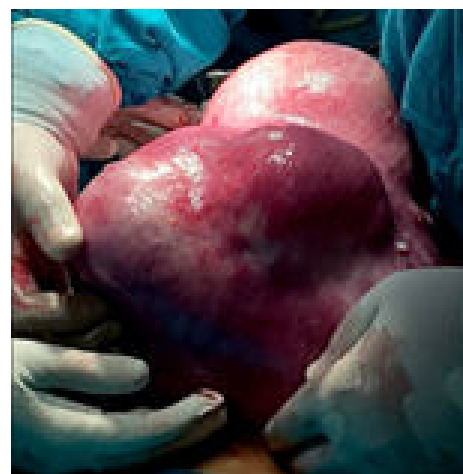


Fig 3. Posterior view of fibroid

Lower segment of uterus was identified separately from fibroids, UV fold was separated, incision was taken on the lower segment of uterus and baby was delivered in breech presentation. Baby cried immediately after birth.

Placenta was removed intact by massaging the uterus, inj Pitocin 20 U was given im, 40 U given iv in dilution with 500ml Ringer lactate solution, Inj methergine was given. Uterus was closed in single layer, hemostasis was achieved.



Fig 4. Uterine closure

Bilateral Internal Iliac Artery Ligation :

Uterus was retracted anteriorly ,bowel was packed posteriorly with mop, daevers retractor inserted to mobilise the bladder, an incision made on the peritoneum over the external iliac artery and extended to the bifurcation of internal iliac artery. Ureter, internal iliac artery and external iliac artery were identified.

Hypogastric artery was elevated from vein using Mixtures forceps, external branch was reidentified, ligature was passed beneath the artery and tied.



Fig 5. External iliac artery

Fig 6. Internal iliac artery ligation

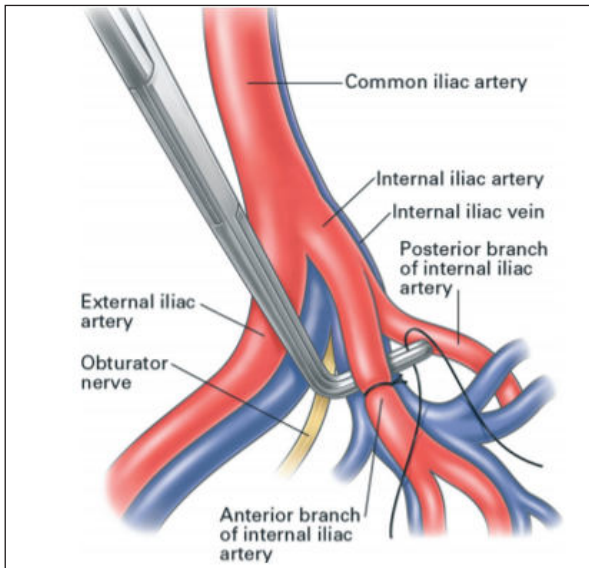


Fig 7. Anatomy of external and internal iliac artery

POST OPERATIVE FINDINGS

Patients post operative period was uneventful. Skin sutures of Ethilon 2-0 were removed on post operative day 10.



Fig 7. Pre-operative measurement of uterus

Fig 8. Post operative measurement of uterus

DISCUSSION

Prophylactic internal iliac artery ligation can be considered in conditions associated with excessive haemorrhage. Early ligation can allow the operative procedure to progress in a

relatively dry and uneventful manner, thus saving time and reducing maternal morbidity and mortality.

Prophylactic internal iliac artery ligation is indicated in cases of multiple leiomyoma, with the "key" fibroid being at the corporocervical junction, distorting branches of uterine artery. Other indications include- Extensive endometriosis, pelvic inflammatory disease, intra-ligamentous pregnancy, abruptio placenta with atony, Couvelaire uterus, etc

In this case, low lying lying placenta with large fibroid in lower uterine segment can prevent obliteration of blood vessels at placental bed, hence possibly causing PPH was the indication of prophylactic B/L internal iliac artery ligation.

Experimental evidence by Burchell has shown that it is the abolition of the 'trip-hammer effect' of arterial pulsations that allows effective clotting to take place, so that small vessels stop bleeding. This could possibly explain why bilateral ligation works better than unilateral ligation.

CONCLUSION

When large and multiple myomas are conserved during LSCS, there is an increased risk of sub involution. The rate of involution of myoma is less than involution of myometrium. Besides stepwise devascularization may be difficult due to location of myoma.

Hence prophylactic B/L internal iliac ligation may have a role to reduce secondary PPH in cases of multiple large intramural fibroids.

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