INTERNAL ILIAC ARTERY LIGATION: A LIFE SAVING PROCEDURESmita Bhat¹, Sudhir Bhawe²**HOW TO CITE THIS ARTICLE:**

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ABSTRACT: OBJECTIVE: To find out the utility of emergency internal iliac artery ligation (EIIAL) in gynecological and obstetric complications. **MATERIAL AND METHODS:** Between Jan 2012 and Dec 2013, a total of seven EIIAL were performed as life- saving procedures along with either a single procedure or along with subtotal/ total hysterectomy as and when required. **RESULTS:** All could be successfully treated & life of patient was saved. **CONCLUSION:** EIIAL still remains an important life-saving procedure in all obstetrics & gynecological conditions with bleeding catastrophe.

KEYWORDS: emergency internal iliac artery ligation (EIIAL)

INTRODUCTION: Internal iliac artery supplies the pelvic viscera. Bilateral ligation of the internal iliac arteries is a safe, rapid and very effective method of controlling bleeding from genital tract. Bilateral ligation of internal iliac arteries is also helpful in controlling atonic postpartum hemorrhage. It is life-saving in postoperative hemorrhage after abdominal or vaginal hysterectomy where no definitive bleeding point is detectable.

It is also helpful in massive broad ligament hematoma, in torn vessels retracted within the broad ligament. Following ligation of internal iliac artery, there is a reduction of 85% in pulse pressure and 48% in the blood flow in the arteries distal to the ligation.¹ Thereby the arterial pressure approaches the venous pressure and is rendered more amenable to hemostasis by a simple clot formation. Any late post-operative complications/ sequelae were not seen in our patients.

MATERIAL AND METHODS: A total of seven emergency internal iliac ligations (EIIAL) were performed during two years from January 2012 to December 2013. This was done as a life saving measure to control intra-peritoneal or external hemorrhage or both. All cases were done via intra-peritoneal route.

Associated operations like subtotal or total hysterectomy and ligation was done when indicated. Patients were analyzed in terms of death and associated complications. Types of hemorrhage and their primary causes are analyzed in Table 1. One case of ruptured uterus occurred in post-caesarean pregnancy.

It was associated with broad ligament hematoma. Two cases of central placenta praevia had excessive lower segment intruterine bleeding after separation of placenta which was not controlled by other measures, so EIIAL was done with subtotal hysterectomy. In two patient of placenta accrete with partial separation patient had excessive intrauterine bleeding EIIAL with subtotal hysterectomy was done. Following abdominal Hysterectomy one patient presented with excessive intra peritoneal & pervaginal bleeding & shock where definite source of bleeding could not be found EIIAL was done to save life of that patient.

EIIAL was done in one patient who had pudandle vessel injury during sacrspinous colpopexy for vault prolapse.

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Type of haemorrhages	Primary cause	No. of cases
Intra-abdominal bleeding	Abdominal hysterectomy for broad ligament fibroid	01
Intrauterine bleeding	Central placenta praevia was seen.	02
Intrauterine bleeding	Placenta accrete with partial separation of placenta	02
Haematoma in para rectal space	Sacrospinous vault suspension for vault prolapse.	01
Broad ligament haematoma	Post caesarian pregnancy	01

Table 1: Shows Type of hemorrhage, its primary cause & no of cases

Type of operation	No of cases
Subtotal hysterectomy	04

Table 2: Associated operation

RESULTS: EIIAL was done in seven cases in two years to control obstetric and gynecological hemorrhage. Internal iliac artery ligations were done even after hysterectomy or repair of injury to the uterus as the bleeding vessel had retracted within broad ligament hematoma. We were able to control hemorrhage in all the seven cases. Seven cases were discharged in good condition. Five patients came back for post-operative checkup after 6 weeks and all of them were without any major problem. Two patients were lost to follow up.

DISCUSSION: Bilateral internal iliac artery ligation is an effective life-saving method to control obstetrical and gynecological hemorrhage and a hysterectomy can often be avoided. Ligation of internal iliac artery was first performed by Kelly² with a success rate 95% and without any major complication. Mukherjee et al³ performed 36 cases of internal artery ligation with a success rate of 83.3% in 6 years. We have a small series of only seven cases in two years because now a days internal iliac artery ligation is usually not required for atonic post partum hemorrhage as other simpler and effective methods are available.

Step-wise devascularization of uterus and compression sutures of the uterus are found very effective.⁴ Angiographically directed arterial embolization has also been reported to be very effective in controlling hemorrhage but this modern facility is not available in most of the centers of our country. We were able to control hemorrhage in all seven cases. However, even when uterus is preserved, ligation of these arteries does not hamper future reproductive function.⁵

Wagaarachchi and Fernando⁶ observed future pregnancy in 50% of the cases following bilateral ligation of internal iliac artery. Bilateral ligation of internal iliac artery is a safe, rapid and effective way of controlling obstetric and gynecological hemorrhage. We also have preserved uterus in one of our young patient for her further child bearing capacity.

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