



CASE REPORT

A Case Report on Successful Management of Complete Placenta Previa with Internal Iliac Artery Ligation

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Abstract

Placenta previa is a complex and extremely challenging scenario as it may result in serious life-threatening conditions like postpartum hemorrhage (PPH). In this case report we present a 32-year-old Primi with 37 weeks of gestational age who approached a multispeciality private hospital at Chennai with complaints of bleeding per vagina around 32 weeks. The Ultrasonogram finding revealed type-3 placenta previa posterior and the patient was hospitalized. The concise steps taken in the management of placenta previa with ligation of internal iliac artery and the surgical outcomes has been precisely described in this case report. This clinical experience indicates that complete placenta previa could be well managed with ligation of internal iliac artery.

Keywords

Placenta previa, Internal iliac artery ligation, Post-partum hemorrhage (PPH), Intrapartum hemorrhage

Introduction

Placenta previa is one of the most dreaded obstetrical complications in which the placenta is abnormally located covering the cervix [1]. In postpartum hemorrhage (PPH) patients refractive to massage and uterotonic therapy, various surgical techniques such as uterine compression sutures, bilateral uterine or internal artery ligation and subtotal or total hysterectomy can be performed as a last resort [2,3]. Moreover, the invasion of the placental villi beyond the decidua basalis, causing placenta accreta or placenta increta, can lead to dangerous conditions such as intractable postpartum hemorrhage

(PPH), hysterectomy, multiple organ dysfunction, and even death [4]. The incidence of placenta accreta has increased in recent decades in association with increasing rates of cesarean delivery, with a recent estimate of approximately 1 in 731 deliveries [5].

It is extremely challenging and complex to reduce the blood loss of this serious life-threatening scenario of PPH. In recent days, inspite of increasing frequency of placenta previa, there is no uniform specifications indicated towards its management. However most studies that preferred surgical approach to placenta previa/accreta have shown improved outcomes when a planned cesarean hysterectomy is performed before the onset of labor or bleeding, though it is not an optimal approach [6]. Therefore, it is the need of this hour to investigate the optimal method for reducing bleeding and preventing an emergency hysterectomy in mothers with placenta previa.

The uterine arteries contain 90% of the uterine blood supply during pregnancy and anastomose with the ovarian, fallopian, and vaginal arteries [7]. Ligation of uterine artery as a management strategy for pelvic hemorrhages has been advocated in obstetrics and gynecology since 1961 by Seigel and Mentert as well as by Reich and Nechtow. The present case report was generated to evaluate the efficacy of the conservative management of complete placenta previa in our service with internal iliac artery ligation in terms of maternal and neonatal outcome.

Case History

A 32-year-old Primi with gestational age of 37 weeks approached a multispecialty private hospital at Chennai with complaints of bleeding per vagina. She was married since two years and had regular menstrual history. The present case was booked at Vizag, Andhra Pradesh till her second trimester. Around 32 weeks she had a history of bleeding per vagina and the Ultrasonogram (USG) finding revealed complete placenta previa posterior. The Growth profile scan also revealed complete placenta previa. The case was given preterm counselling and steroid coverage of two doses at 30th week of gestation. The subject and the attender were clearly explained regarding the complications of placenta previa and discharged.

During her admission for delivery she was afebrile, no pallor, pulse rate was 102 beats/min, blood pressure was 100/60 mm/Hg and her blood glucose levels were normal. Examination of cardiovascular and respiratory system were normal. Per abdominal examination revealed term uterus, irritable, head floating, fetal heart rate (FHR) was good, not tense and not tender. The USG finding revealed no collection seen, complete placenta previa and good fetal heart rate. Local examination revealed blood stained discharge per vaginum.

Materials and Methods

Setting

BloomLife hospital is a high-risk obstetrics care centre with well equipped surgical and neonatal intensive care units and resident doctors. The setting has a well trained birthing team and good infrastructure to provide quality care at international standards.

Surgical technique protocol

Under aseptic precautions the abdomen was opened in layers through Pfannenstiel incision. The uterus was opened through curvilinear incision. A live boy baby Apgar 8/10, 9/10 at one and five minutes and body weight of 2.80 kg was delivered as left occiput transverse position. Clear liquor was drained, early cord clamping and cutting was done and the baby was handed to the pediatrician. Placenta and membrane was found to completely covering the lower uterine segment. Placenta and membrane was delivered completely and posterior hemostasis suture was taken in the LUS. Uterus closed in layers using 1-0 vicryl. There was mild atonic post-partum hemorrhage that was managed medically. Internal iliac artery was approached by opening the peritoneum approximately 3 cm from posterior aspect of the round ligament of uterus. The bifurcation of Common iliac artery was approached between the round ligament and the ovarian ligament by direct incision of the peritoneum. Capsular formation surrounding internal iliac vessels was opened with sharp dissection to free both artery and vein.

The Ureter was retracted medially and injury to the internal iliac veins was avoided. The course of ureter anterior to the common iliac artery was denuded down to the level of internal iliac artery and retracted away from the operation field. Ligation of anterior division of right internal iliac artery was done with the help of vascular surgeon. Control was taken on right common iliac artery, right external iliac artery, and right internal iliac artery using tape. Anterior branch of right internal iliac artery was identified 2 cm from common iliac artery and right anterior division of internal iliac ligation was done using 1-0 silk. Femoral and Dorsalis pedis arteries were palpated for pulsations to rule out inadvertent ligation of External iliac artery [8].

The safety and effectiveness of these procedures were confirmed by a retrospective study conducted in a tertiary care obstetrics and gynecology hospital at Tirunelveli, South Tamil Nadu. The study reported that out of 31 women who underwent bilateral internal iliac artery ligation (BIL) for abnormal placentation, 19 underwent elective surgery and 12 underwent emergency surgery. Among those who underwent emergency surgery 8 needed blood transfusion and postpartum hysterectomy was avoided in all study participants except one elective surgery patient [9].

Outcome Assessment

Patient tolerated the procedure well and the urine output was 200 ml. Vaginal toileting done and there was no undue bleeding per vagina. The estimated blood loss was 1200 ml and two units of packed red blood cell was transfused. The duration of surgical procedure was one hour and thirty minutes and the number of days spent in the hospital was 4 days. The hemoglobin level before and after delivery was 11.3 gm/dl and 10.5 gm/dl respectively. The patient was advised oral iron supplement twice a day for two months after which the hemoglobin level was restored to normal.

Conclusion

Postpartum bleeding after delivery and its maternal complications are the nightmare for most obstetricians. Since placenta previa demands LSCS and its complications of PPH, many obstetricians may not be willing to admit the patient in their set up. The present case report highlights that bilateral internal artery ligation can successfully be used for the management of complete placenta previa which in turn reduces the need of morbid procedures like Cesarean hysterectomy.

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