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Research Article

BLADDER INJURY AS A COMPLICATION OF EMERGENCY PERIPARTUM HYSTERECTOMY

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ABSTRACT

Pregnancies complicated with placenta praevia and with a history of previous cesarean section are known to be at increased risk for placenta accreta. Massive hemorrhage and bladder injury are the major complications encountered in cesarean section of such patients. We present a case report of a woman with placenta previa, which turned out to be placenta accreta during cesarean section and who bled profusely ultimately landing into shock intraoperatively. Considering her obstetrical history decision was taken to perform hysterectomy. However, the urinary bladder was densely adherent to the lower uterine segment because of previous caesarean section. During the dissection, there was inadvertent injury to the bladder which was promptly repaired. The patient was revived completely with multiple transfusions and with no post-operative complications. There were no urological problems in post- operative period and mother and baby were well on discharge and follow up.

Keywords: Bladder Injury; Cesarean section; Hysterectomy; Placenta praevia.

INTRODUCTION

Emergency peripartum hysterectomy (EPH) is an uncommon obstetric procedure, usually performed as a life-saving measure in cases of intractable obstetric hemorrhage[1-3]. It was first proposed in 1869 but with no desirable results[4]. However, seven years later (1876), the first cesarean subtotal hysterectomy was carried out successfully, with the result that both the mother and the baby survived[5]. In modern obstetrics, the overall incidence of EPH is 0.05%, but there are considerable differences in incidence in different parts of the world, depending on modern obstetric services, standards and awareness of antenatal care, and the effectiveness of family planning activities of a given community[6]. Indications for peripartum hysterectomy have changed throughout the years. In earlier reports[7,8], the major indications for EPH were uterine rupture and atony, but recent studies[9] have listed placenta accreta as the leading cause of peripartum hysterectomy because of a higher rate of cesarean sections and repeat cesarean section rates, with higher rates of accreta. A similar study reported that the incidence of placenta previa increased from 0.5% in the general population to 3.9% after one cesarean section, and up to 10% after four cesarean sections[10]. The same study documented the incidence of placenta accreta at 5% in patients with placenta previa with no previous cesarean scar, but up to 67% in patients who had four previous cesarean scars. They also reported an 82% risk of peripartum hysterectomy in patients with placenta previa/accreta who previously underwent cesarean section[10].

Emergency peripartum hysterectomy is associated with high complication rates, mainly due to the need for massive blood transfusions, coagulopathy, and injury to the urinary tract, and it is also associated with the need for re-exploration because of persistent bleeding and febrile morbidity [2]. The anatomic proximity of the reproductive and lower urinary tracts predisposes them to iatrogenic trauma during obstetric and gynecological surgery. The bladder and distal ureters are the most commonly involved organs[11].The bladder is a retroperitoneal structure, its trigone rests over the anterior vaginal fornix and the base rests on the lower uterine segment and cervix. It is most frequently injured during obstetric procedures. An incidence of 61% during obstetric procedures,[12] 1.8% during cesarean section,[12] and 1.5% during gynecological surgeries, per 1000 cases have been reported[13]. According to a study in 2002, the incidence of bladder and ureter injuries, respectively, are 0.58% and 0.36% for abdominal hysterectomy, 1.86% and 0% for vaginal hysterectomy and 5.13% and 1.71% for obstetric hysterectomy[14]. The incidence of bladder injury increases with previous Caesarean deliveries[15].

CASE REPORT

A 30 years old second gravida, one para with one live issue of 3 years came to the obstetrical unit of a rural tertiary care centre of central India with a history of 33+4 weeks pregnancy and profuse vaginal bleeding since 2 hours. Her first child had been born by caesarean section. She was a booked patient with regular antenatal check-ups and a diagnosed case of complete placenta praevia on 30 weeks obstetrical

ultrasound. However she did not have previous history of bleeding per vaginum prior to this episode. On general examination patient was pale, anicteric with no cyanosis or swelling over the body. Her pulse rate was 120/min, Blood pressure 90/60 mm of Hg. On per abdominal examination uterine height was 34 weeks, uterus relaxed, cephalic presentation with free floating head, no scar tenderness, no supra-pubic bulge, liquor was adequate for the gestational age, fetal heart sounds were present. (FHR 120/min). On per speculum examination vagina was full of clots around 400-500 ml and a continuous trickle of blood was seen coming out through the cervical os. Per vaginum examination was not done. Patient was bleeding profusely. After necessary emergency investigations and efforts for resuscitation, patient was shifted for emergency LSCS with 4 units of blood in view of placenta praevia with massive bleeding per vaginum. Her CBC report revealed that her hemoglobin was 6 gm%. Under all aseptic conditions abdomen opened by modified Pfanensteil incision. Uterus was opened by lower segment transverse incision. Placenta was anterior completely covering the os. Baby was extracted by an approach through the placenta. Baby cried immediately. Intra-operatively it was found that the placenta was adherent to the lower uterine segment especially near the cervix and could not be separated. There was massive bleeding from the placental bed and the patient was in shock with blood pressure 80 mm of Hg systolic and pulse rate, 150-160/min. Considering the massive haemorrhage and obstetric history of the patient, decision was taken to perform hysterectomy. Proper consent was taken after explaining situation to relatives. Possible complications were also explained. Peripartum hysterectomy was started. During anterior dissection of bladder away from the lower uterine segment it was noted that bladder was densely adherent to the lower segment. Sharp dissection was done. During the dissection small injury of 1.5 to 2 cm to the urinary bladder was identified. After that complete dissection of the bladder was done, and the injury was repaired in 2 layers. With complete dissection of bladder proper approach to the cervix could be achieved. This was important in this particular case as the bleeding was from the placental bed of lower segment especially the cervical area. Thus, the uterus was removed with the complete cervix and hemostasis was achieved. Vault was sutured meticulously. Drain was kept and the abdomen was closed in layers. The patient was completely revived by rapid surgical management and multiple blood transfusions. Total 7 units of blood and component transfusion were given. Catheter was left in situ for 21 days. Post-operative period was uneventful, both mother and baby were well. After 21 days catheter was removed and patient passed urine with no difficulty. There was no incontinence and mother and baby were discharged under satisfactory condition.

DISCUSSION

The bladder is the most frequently injured organ during pelvic surgery, most often in obstetric procedures. Its incidence increases according to the complexity and local/regional conditions of each procedure[12,13]. Frequencies reported in literature range from 0.2 to 19.5 per 1000, with an overall frequency of 2.6 per 1000[16]. Although bladder injury is almost always recognized at surgery, the intra-operative diagnosis of ureteral injury is difficult and requires a high index of suspicion. Only 51.6% of bladder injuries

and 11.5% of ureteral injuries were identified and managed intraoperatively[16]. The best approach is prevention of injury by careful sharp dissection and limiting blunt dissection, particularly the use of sponge to mobilize a bladder flap during cesarean hysterectomy, especially in cases with previous cesarean section. Sharp dissection prevents devascularization, laceration and suturing into the bladder muscularis. Previous LSCS is associated with increased risk of bladder injury due to dense adhesions formed between the bladder and lower abdomen as well as the lower uterine segment[17]. These adhesions may lead to inadvertent entry into the bladder during their dissection of the uterus. Often the iatrogenic bladder injury is identified by clear fluid leaking or sudden appearance of a Foley's bulb in the operative field, visible laceration or the presence of bloody urine in the uro-bag[12]. Repair should be done immediately once the injury is identified, as repair at the primary surgery is often easier, more successful, less morbid for the patient and advantageous for the surgeon from a legal point of view[18].Delayed diagnosis is suspected when postoperatively there is oliguria, hematuria, elevated urea/creatinine ratio, lower abdominal pain, distension, ileus or urinary ascites.

CONCLUSION

As the incidence of cesarean section continues to rise world-wide, the problem of placenta previa/accreta is likely to become more common and hence the incidence of emergency peripartum hysterectomy also. Considering these points one should be very careful while performing these procedures, so as to avoid injuries to bladder and even if they occur one should be competent enough to deal with it. Proper counselling of the relatives regarding possible complications is imperative.

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