

Postpartum Uterine Caesarean Incision Necrosis and Pelvic Abscess Managed by Hysterectomy: A Complication of Puerperal Endomyometritis

Ahmed Samy El-Agwany

Department of Obstetrics and Gynecology, Alexandria University, Alexandria, Egypt

Abstract: Late postpartum hemorrhage and vaginal purulent discharge following a Caesarean Section (CS) is uncommon. A partial or complete dehiscence of the lower segment CS incision is a rare but possible cause. A 35 years old woman underwent a lower segment CS for primary infertility, triplet pregnancy and premature rupture of membranes at 34 weeks of gestation. On the 5th postpartum day, she developed vaginal bleeding that was inadequately managed and the patient developed purulent vaginal discharge on the 15th day postpartum. Emergency laparotomy revealed a complete dehiscence of the lower uterine segment incision. A subtotal hysterectomy was performed to and the postoperative course was uneventful.

Key words: Segment, postpartum, purulent, discharge, hysterectomy

INTRODUCTION

Late postpartum haemorrhage is defined as vaginal bleeding that occurs between 24 h and 6 weeks after delivery. The most common causes are infection, subinvolution of the placental site, retained placental tissue and hereditary coagulopathy (ACOG, 1998). Late postpartum haemorrhage after a Caesarean Section (CS) is estimated to occur at a rate of approximately 1 in 365 cases (ACOG, 1998). A rare cause is the partial or complete dehiscence of the lower uterine segment incision (Treanor, 1962). Researchers describe here a patient with late postpartum hemorrhage complicated with puerperal endometritis following CS that caused dehiscence of the uterine incision.

CASE

The patient was a 35 years old primiparous woman. The course of pregnancy had been normal and the patient had no significant medical or surgical history a transverse lower segment CS was performed because infertility, PROM and triplet pregnancy at 34 weeks of gestation in a private hospital.

On the 5th postpartum day, the patient developed vaginal haemorrhage that was poorly assessed in this hospital. She slowly developed purulent vaginal discharge that was managed as puerperal sepsis on home treatment but it did not repond so on the 15th day postpartum, she was admitted to the hospital. She had no abdominal pain or fever. On examination she had mild abdominal tenderness and the uterus was palpable nearly 24 weeks size. The patient had purulent vaginal discharge

and her pulse rate was 90/min, her blood pressure was 140/70, temperature 37°, WBC was 25000/cmm and her hemoglobin concentration was 10 g L⁻¹. Retained placental tissue was considered unlikely because delivery had been by CS and lochia had ceased. However, as the cervix was dilated with subinvoluted uterus. Exploration of the uterine cavity with a finger demonstrated a dehiscence scar of previous caesarean section.

An ultrasound examination of the pelvis performed subsequently demonstrated subinvoluted uterus with fluid intrauterine and pelvic collection.

The decision was made to perform emergency laparotomy under cover of antibiotics as diagnoses of uterine incision necrosis were highly suspected with the possibility that hysterectomy would be required. At laparotomy, there was purulent discharge in the peritoneal cavity. The uterus was subinvoluted and the pelvic tissues seemed very inflamed and friable and dehiscence of the lower segment uterine incision was identified.

A subtotal hysterectomy without salpingo-oophorectomy was performed (Fig. 1) and drainage of pelvic collection that was sent for histopathology and culture and sensitivity. The patient received a total of two units of packed red cells and two units of fresh frozen plasma. Her blood pressure remained stable throughout the surgery. Postoperative hemoglobin concentration was 9.9 g L⁻¹.

The patient's postoperative course was uneventful. She was given intravenous gentamycin, cephalosporin and metronidazole. The patient was discharged on the 10th postoperative day and remained well thereafter. The histopathology showed endomyometritis and old haematoma at the uterine scar.



Fig. 1: The hysterectomy specimen showing the dehiscence scar with hematoma at edges

DISCUSSION

Late postpartum haemorrhage and endomyometritis following CS is uncommon. The traditional causes of postpartum hemorrhage which typically are retained placental fragments are less likely to arise after CS because the delivery of the placenta is directly observed (Keane, 1973; Ross and Galliford, 1974) postpartum hemorrhage due to partial or complete dehiscence of the lower segment uterine scar after CS has been reported (Keane, 1973; Ross and Galliford, 1974; Intaraprasert and Siwawej, 1984; Larsen *et al.*, 1995; Heys, 1963; Ross, 1965; Shweni *et al.*, 2003; Burke and Gallup, 2003; Wagner and Bedard, 2006) and it is reasonable to presume that less severe cases that are undiagnosed and unreported may occur more frequently (Intaraprasert and Siwawej, 1984). In these cases, bleeding is likely to arise from undiagnosed haematoma in the uterine incision (Keane, 1973).

Reported risk factors for dehiscence of the lower segment uterine scar following CS are multiparity, infection and an incision placed too low in the lower uterine segment (Ross and Galliford, 1974; Intaraprasert and Siwawej, 1984; Heys, 1963; Ross, 1965; Shweni *et al.*, 2003). Incisions that are made too close to the relatively a vascular tissue of the cervix lead more often to necrosis of the angles of the wound (Ross and Galliford, 1974; Heys, 1963). Where dehiscence is described, the incision may appear healthy or necrotic (Larsen *et al.*, 1995; Ross, 1965). Some reports describe dehiscence of a CS scar because of severe endomyometritis (Burke and Gallup, 2003; Wagner and Bedard, 2006). Others describe patients without clinical endomyometritis (Keane, 1973; Ross and Galliford, 1974; Intaraprasert and Siwawej, 1984; Heys, 1963). In the present case, researchers hypothesized because of the haemorrhage and histopathology report confirmation of

haematoma that the patient may have developed a uterine hematoma in the incision during suturing that subsequently became infected by low virulent vaginal flora that was attracted to the haematoma and eventually caused tissue necrosis and pelvic abscess. This led to continuous communication between the peritoneal cavity, uterine cavity and vagina that drained continuously the pelvic collection. This communication may be the main cause for continuous drainage of pus in a hemodynamically stable female without fever.

Among the factors associated with poor wound healing are diabetes, malnutrition, older age, immunosuppression and obesity (Burke and Gallup, 2003; Wagner and Bedard, 2006). The weight of the patient at the time of CS was ~100 kg. Her obesity may have contributed to the infection. In the evaluation of hemorrhage following CS, some researchers advise performing uterine exploration by curettage although in one case curettage led to perforation at the site of dehiscence with consequent development of intraperitoneal hemorrhage (Heys, 1963; Ross, 1965). Other researchers, partly because of this risk, advise digital exploration of the cavity. Because defects in the incision may be missed by exploring from inside the uterine cavity, direct confirmation of dehiscence requires a laparotomy (Keane, 1973; Intaraprasert and Siwawej, 1984; Shweni *et al.*, 2003). Dehiscence should also be strongly suspected if uterine exploration and curettage did not identify other sources of bleeding and discharge and if anecrotic defect was palpable at the incision site in the lower segment (Heys, 1963). However, the diagnosis is often made only after many episodes of bleeding and at the time when the decision is made to perform hysterectomy. In such a clinical situation, ultrasound examination may be useful to exclude intra-abdominal bleeding and retained products of conception. Ultrasound and Magnetic Resonance Imaging (MRI) have also been used to measure the lower uterine segment thickness after CS (Rozenberg *et al.*, 1996; Hebisch *et al.*, 1994). However, their clinical usefulness in an acute setting needs to be defined.

Conservative and aggressive approaches have been proposed for the management of dehiscence of a CS scar. Conservative measures include digital debridement and packing of the uterus, antibiotic therapy and blood transfusion (Keane, 1973; Heys, 1963; Ross, 1965). The more aggressive measures include debridement of the incision with repeat suture closure, ligation of the internal iliac arteries or uterine arteries and hysterectomy especially in infection as in the presenting case. Researchers were obliged to perform hysterectomy in the case as this was the source of infection (Keane, 1973; Heys, 1963; Ross, 1965). The exploration and resuture of

the incision can be difficult because of the friability of the tissue. In addition because of uterine involution, it may be that there is not enough tissue in the lower uterine segment to allow repair (Keane, 1973; Shweni *et al.*, 2003). Hemorrhage has been controlled by ligation of the uterine arteries per vagina and by ligation of one internal iliac artery but researchers tend to agree that hysterectomy is the treatment of choice (Keane, 1973; Ross, 1965).

CONCLUSION

Secondary postpartum haemorrhage and endomyometritis after CS due to a dehiscence of the lower uterine segment incision is, fortunately, relatively rare. Significant morbidity is associated with this complication. Clinicians must remain aware of the diagnostic and therapeutic options. It is very important not to underestimate this complication and closely managed.

RECOMMENDATIONS

It has been recommended that all women who retain their uterus after a significant postpartum hemorrhage following CS should undergo evaluation to rule out any defect in the scar (Heys, 1963). Researchers feel that the patients should undergo elective repeat CS and should not be candidates for a vaginal birth after CS.

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