

COMPLETE UTERINE INVERSION DURING LOWER SEGMENT CAESAREAN SECTION

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PRESENTATION OF CASE

We describe a case of acute uterine inversion that occurred during a lower uterine segment caesarean section in a 20-year-old primigravida under subarachnoid block that was managed successfully. During the extraction of the placenta with controlled cord traction inversion of uterus was observed. After several unsuccessful attempts, the inversion was corrected by gradual reversion of the uterus done by rolling the lower edge over the uterine fundus (first part to invert, first reverted) followed by extraction of the placenta. A blood loss of about 1000 mL was estimated and corrected with two pints of compatible blood transfusion. The patient was shifted to the postoperative room in a stable condition. The postoperative period was uneventful. We concluded that uterine inversion is a serious complication, of which both the anaesthesiologist and the obstetrician should be aware of since its prompt diagnosis and early management are of utmost importance in preventing maternal morbidity and mortality.

DIFFERENTIAL DIAGNOSIS

Inversion of uterus through the uterine incision during caesarean section is a rare life-threatening obstetrics emergency. In cases of prolonged uterine inversion, haemodynamic instability and shock which are often out of proportion to the degree of blood loss, have been reported as serious sequel. We describe a case of acute uterine inversion that occurred during lower uterine segment caesarean section, which was managed successfully under regional anaesthesia i.e. subarachnoid block.

PATHOLOGICAL DISCUSSION

A 20 years old primigravida, weighing 57 kgs and height 157 cms with bilateral pedal oedema and pallor was posted for emergency lower segment caesarean section at 38 weeks under regional anaesthesia (subarachnoid block). Preoperative history was unremarkable. She had received vitamin supplements during pregnancy. Pre-anaesthetic examination, pulse rate of 102 beats per minute, regular and blood pressure of 108/68 mmHg and SpO₂ of 98% on room air. Review of systems was normal. Laboratory investigations,

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haemoglobin 8 gm% and other investigations were within normal limits. Monitors were connected and intravenous cannula 18-G was secured in left upper limb and preloading with 500 mL of ringer lactate was done. Subarachnoid block with 2 mL of injection Bupivacaine 0.5% heavy was injected at L3-L4 space and block up to T4 was achieved. Delivery of baby was uneventful. After extraction of baby, 10 units of Oxytocin was administered. Gentle cord traction was applied in order to remove the placenta following which complete inversion of uterus through the uterine incision occurred with the placenta remaining firmly attached to the uterine fundus with blood collection in between uterine bed and placenta. The oxytocin infusion was stopped. The inverted uterus was exteriorised at once and placenta was manually removed. After several attempts for uterine reversion lasting for less than 5 minutes, reversion of uterus was finally achieved by gradually rolling the lower most part of posterior edge over the uterine fundus. During the repositioning, the BP dropped to 80/40 mmHg and pulse 178/min. The uterus was repositioned intraabdominally and uterine closure was done. Injection methylergometrine 0.2 mg administered intramuscularly to maintain the uterine contractions along with 20 units of oxytocin infusion. Another IV line was secured in right upper limb with 18G intravenous cannula and 2 units of compatible fresh blood were transfused. Blood loss was estimated to be around 1000 mL. After the end of caesarean section 0.8 mg tablet of Misoprostol was administered per rectally. Patient was shifted to postop ward with pulse rate of 108 beats/min and BP of 108/72 mmHg. The postoperative period was uneventful. Patient was discharged from hospital on 7th postoperative day.



Figure 1



Figure 2



Figure 3

DISCUSSION OF MANAGEMENT

The exact incidence of uterine inversion during caesarean delivery is not known. It seems to be an extremely rare complication.^(1,2-7) The reported incidence is one out of 1860,⁽⁸⁾ much lower than that of following vaginal delivery, but we believe that this is overestimated because it is the first case reported in our department in the last year. The causes of this complication remain unclear. Fundal insertion of the placenta,⁽⁹⁾ inherent weakness of the uterine musculature,^(2,3) the administration of oxytocin, in particular when given as a bolus^(10,11) and traction of the cord with the placenta, either partially or completely attached to the uterus (adherent placenta)^(11,12,5) could be probably contributing factors of this complication. The principal features of this complication are haemorrhage and shock which is often profound and out of proportion to the degree of blood loss. The blood loss depends on the inversion-reversion interval and can lead to serious haemodynamic instability.^(10,13,14) It has been postulated that hypotension and shock may be neurogenic in origin, owing to the traction on the patient's infundibulopelvic ligaments or secondary to peritoneal or broad ligament stretching.⁽¹¹⁾ Afferent impulses are thought to cause a vasovagal reaction leading to cardiovascular depression.⁽⁸⁾ However, given that the patient is under anaesthesia, either general or regional, the neurogenic element of shock should be considered as eliminated,⁽⁹⁾ so the blood loss remains the main reason for the patient's haemodynamic instability in our case. Management of uterine inversion during caesarean section is usually simple, if diagnosed promptly within a few minutes.

In our case, controlled cord traction was followed immediately by complete inversion. The firm fundal insertion of the placenta and the cord traction, although controlled and gentle could have been the contributing factors. Prompt diagnosis and re-inversion of the uterus facilitated a successful outcome. In cases of prolonged inversion to re-inversion interval, careful vigilance of the vital signs with anticipation of haemodynamic instability and bleeding is imperative.

FINAL DIAGNOSIS

Uterine inversion during caesarean section is a serious and unexpected obstetric complication, of which both the obstetrician and anaesthesiologist should be aware of. Prompt diagnosis and early uterine reversion without any delay are the key in management of this life-threatening obstetric complication.

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