

INCOMPLETE UTERINE RUPTURE FOLLOWING BLUNT TRAUMA TO THE ABDOMEN: A CASE REPORT.

C.A. Enakpene, O.A. Ayinde, A.O. Omigbodun.

Department of Obstetrics and Gynaecology, University College Hospital, Ibadan

Keywords: Blunt abdominal injury, incomplete uterine rupture, shock and active resuscitation.

INTRODUCTION

Injury to the pregnant woman evokes a significant amount of anxiety because of its infrequent occurrence and the potential implications. Trauma in pregnancy puts both the mother and the fetus at great risk. One of the most feared complications is uterine rupture, which occurs in less than 1% of traumatic events in pregnant women¹. The major causes of maternal trauma are vehicular accidents, falls and penetrating injuries.² This was a case report of a patient who sustained traumatic laceration of the uterus following a fall from a moving motorcycle.

CASE REPORT

Mrs. O.S.B. was an unbooked 26 year old Gravida 5, Para 4⁰, 2 alive petty trader who was admitted via the accident and emergency department of the University College Hospital, Ibadan, Nigeria on 5th June, 2003 at a gestational age of 38 weeks. She presented with a 5-hour history of constant lower abdominal pain, profuse vaginal bleeding and dizziness of an hour duration, following a fall from a moving motorcycle. There was no loss of consciousness or injury to any other part of the body. Examination at presentation revealed a young woman, restless, with cold clammy extremities, severely pale and acyanosed. The respiratory rate was 30 cycles per minute, while the pulse rate was 126 beats per minute (regular but of low volume). The blood pressure was 80/40mmHg. The heart sounds were normal and the chest was clinically clear. The abdomen was uniformly enlarged and moved with respiration. There were skin abrasions and tenderness over the left iliac fossa. The liver, spleen and kidneys were not palpably enlarged and there was no clinically demonstrable fluid collection in the abdominal cavity. The uterus was soft with weak contractions occurring every 4-5 minutes, lasting about 15 seconds. The symphysio-fundal measurement was compatible with the gestational age. There was a singleton fetus, in longitudinal lie and cephalic presentation in the left occipito-anterior

position. The fetal heart rate was 108 beats per minute. Vaginal examination revealed profuse bleeding with passage of large clots. A working diagnosis of suspected uterine rupture was made.

She was commenced on immediate resuscitation with intravenous normal saline, isoplasma, oxygen by intranasal catheter, transfusion with one unit of uncross-matched O Rhesus negative blood. She was nursed in the left lateral decubitus position. Blood sample was collected for packed cell volume, grouping and cross-matching of 4 units of fresh whole blood, electrolytes and urea as well as bedside clotting time. The results of the investigations were normal except for the packed cell volume of 20%. The urinary bladder was catheterized for hourly monitoring of urinary output. The urine was clear and the volume was adequate. The patient subsequently had exploratory laparotomy and repair of uterine rupture through a midline abdominal incision.

Intra-operative findings were: Left broad ligament haematoma of 20cm by 5cm, an incomplete longitudinal rupture of the left lateral wall of the lower uterine segment, measuring 6cm in length and extending down to the cervix. Intra-abdominal viscerae were intact and there was no haemoperitoneum. A live male infant weighing 3.45kg with Apgar scores of 6 at one minute, 8 at five minutes and 10 at ten minutes was delivered through a separate transverse lower segment uterine incision made. The placenta was antero-fundal and there was no retroplacental clot. The uterine incision and the freshened rupture site were repaired in 2 layers. The patient was transfused with two units of blood intra-operatively and one unit in the recovery room. The baby was assessed by the paediatrician and adjudged fit enough to stay with the mother in the lying-in ward.

She recovered steadily and her packed cell volume on the 2nd post-operative day was 31%. She was subsequently discharged home with her baby on the 10th post-operative day and both were seen in the postnatal clinic five weeks later in satisfactory clinical conditions. She was then referred to the family planning clinic and also counseled about

specialist care during her subsequent pregnancies and the importance of elective caesarean section for future deliveries.

DISCUSSION

The management of ruptured uterus following abdominal injury requires an active approach. The following guidelines may be useful in the management of trauma in pregnancy²:

- Transportation in the left lateral position to avoid supine hypotension syndrome.
- Administration of supplemental oxygen in order to take care of increased oxygen consumption, decreased vital capacity and high sensitivity of the fetus to maternal hypoxia.
- Administration of bolus intravenous fluids as expanded intravascular volume in pregnancy may mask the extent of blood loss.
- Non-deferment of indicated X-rays because of pregnancy but ensuring that the abdomen is appropriately shielded whenever possible.
- Correct estimation of the gestational age, which is critical in making decision on the mode of management.
- Administration of anti-D immunoglobulin (Rhogam) in Rhesus negative patients (50µg in the first trimester; 300µg in the second and third trimesters).

Rupture of the uterus remains a significant cause of maternal mortality in developing countries, though most cases follow prolonged obstructed labour, injudicious use of oxytocin in labour and scar dehiscence. The contribution of abdominal injury to the overall prevalence of uterine rupture varies widely between 4.7 and 42.9 %, depending on the environment³⁻⁶. However, trauma contributes less than 10% of cases in most developing countries, including Nigeria where most cases follow prolonged obstructed labour³⁻⁵. Death from this condition often results from haemorrhage, shock and sepsis⁷. Mrs. O.S.B. was one of the few fortunate patients who survived after traumatic uterine rupture, in spite of the apparent delay in seeking care. The management of the condition, irrespective of the cause, is emergency exploratory laparotomy after adequate resuscitation, as was done in this patient³.

Intraoperatively, the options of procedures that could be performed are repair of the uterus (with or without bilateral tubal ligation) and hysterectomy^{7,9}. In general, this is individualised and depends on the patient's condition, location and extent of the rupture and parity. However, most authors prefer the more conservative procedures as they could be performed faster and are associated with less morbidity and mortality¹⁰. In this patient, simple repair without sterilization was deemed appropriate as the uterine rupture was found to be incomplete, easily accessible and with neat fresh edges, especially as she was of

low parity. The case was one of the few success stories in terms of perinatal outcome following uterine rupture.

Prognosis depends on the duration of the rupture before commencement of effective treatment, the speed and effectiveness of resuscitation, particularly the availability of adequate amount of blood for transfusion. This is where a management guideline is essential for quick reference in treating trauma in pregnancy. In conclusion, many of the cases of maternal and perinatal morbidity and mortality following uterine rupture can be prevented by a high index of suspicion, early diagnosis, prompt and adequate maternal resuscitation and timely surgical intervention. Therefore, it is imperative for pregnant women who sustain blunt trauma to the abdomen to present immediately in the hospital and for them to be carefully evaluated and observed in the hospital for a couple of days even in the absence of obvious immediate complications.

REFERENCES

1. **Rowe TF, Lafayette S, Cox S.** An unusual fetal complication of traumatic uterine rupture. *J Emerg Med.* 1996; 14(2): 173-6.
2. **Kuhlmann RS, Cruikshank DP.** Maternal trauma during pregnancy. *Clin. Obstet. Gynecol.* 1994, 37(2): 274-93.
3. **Ekpo EE.** Uterine rupture as seen in the University of Calabar Teaching Hospital, Nigeria: a five-year review. *J Obstet Gynaecol.* 2000; 20(2): 154-6.
4. **Lema VM, Ojwang SB, Wanjala SH.** Rupture of the gravid uterus: a review. *East Afr Med J.* 1991; 68(6): 430-41.
5. **Nagarkatti RS, AMBIYE VR, Vaidya PR.** Ruptured uterus: changing trends in etiology and management. *J Postgrad Med.* 1991; 37(3): 136-9.
6. **Elkady AA, Bayomy HM, Bekhiet MT, Nagib HS, Wahba AK.** A review of 126 cases of ruptured gravid uterus. *Int Surg.* 1993; 78(3): 231-5.
7. **Myerscough PR.** Maternal Injuries. In: Myerscough P.R. (ed.), *Munro Kerr's Operative Obstetrics.* Balliere Tindall, London, 10th ed. 1982: 442-467.
8. **Lawson JB.** Sequelae of Obstructed Labour. In: *Obstetrics and Gynaecology in the Tropics and Developing Countries.* Lawson J.B. and Stewart D.B. (eds.). Edward Arnold Publishers, London, 1979: 795-824.

9. **Konje JC, Odukoya OA, Ladipo OA.** Ruptured Uterus in Ibadan. A twelve-year review. *Int. J. Gynecol. Obstet.* 1990; 32: 207-213.
10. **O' Connor RA, Gaughan B.** Rupture of gravid uterus and its management. *J. Obstet. Gynaecol.* 1993; 13: 29-33