

PREVIOUS SECOND TRIMESTER ABORTION: A risk factor for third trimester uterine rupture in three subsequent pregnancies. Report of three cases.NANA P.N.¹; MBU R.E.¹; FOMULU J.N.²; AKO S.N.³; TONYE R.³; LEKE R.J.I.¹(Manuscript N° E108. Received 02/05/2008. Accepted in revised form 27/02/2009) **Clin Mother Child Health 2009; Vol 6, N° 1:1033-1036****ABSTRACT:**

The authors report on three cases of uterine rupture. The first two cases occurred spontaneously and the third occurred in labour. All the patients refused voluntary termination of pregnancy before surgery. The true story was only re-constituted after surgery. Literature on spontaneous rupture of the uterus is scanty but cases occurring after hysteroscopic metroplasty, resectoscopy for Asherman's syndrome, hysteroscopic fundal perforation, and voluntary termination of pregnancy and in a primiparous woman are reported. Spontaneous uterine rupture though rare should always be considered in the differential diagnosis of a woman who presents with severe pain in the later half of pregnancy, with foetal loss, anaemia, with a stable or unstable hemodynamic status and a past history of unsafe termination of a second trimester pregnancy. Though rare, this possibility should be considered in the differential diagnosis of a prolonged third stage of labour. Thorough clinical history and physical examination of patients remains the cornerstone for accurate diagnosis of uterine rupture.

KEY WORDS: Induced second trimester abortion - Previous uterine surgery - Uterine rupture.

ANTECEDENT DES AVORTEMENTS DU SECOND TRIMESTRE: Un facteur de risque de rupture utérine au troisième trimestre au cours des grossesses ultérieures. A propos de trois cas.
RESUME:

Les auteurs rapportent sur trois cas de rupture utérine. Les deux premiers cas ont eu lieu spontanément et le troisième, au cours du travail. Toutes les patientes ont nié l'histoire d'interruption volontaire de grossesse avant la chirurgie. Cette notion d'interruption volontaire n'a affirmée qu'après la chirurgie. La littérature sur les ruptures utérines spontanées est rare ; néanmoins les cas survenus après métroplastie hystéroscopique, resectoscopie pour le syndrome d'Asherman, perforation hystéroscopique du fond utérine, interruption volontaire de grossesse et chez les primipares sont reportés. Une rupture utérine spontanée devrait être considérée dans le diagnostic différentiel de toute femme qui présente une douleur aiguë au cours de la deuxième partie de grossesse, un mort in utero, une anémie, un état hémodynamique plus ou moins stable et un antécédent d'avortement provoqué de deuxième trimestre. Par ailleurs, il faut aussi l'évoquer devant tout troisième stade du travail prolongé. Une bonne observation clinique et un examen physique restent la pierre angulaire de la bonne pratique médicale.

MOTS CLES: Avortement provoqué de deuxième trimestre - Antécédent de chirurgie utérine - Rupture utérine.

I- INTRODUCTION

Complete uterine rupture is the loss of continuity of the three layers of the uterus. Several factors are incriminated in the genesis of uterine rupture, amongst which are previous uterine scars such as

classical caesarean sections, lower segment caesarean sections, myomectomy, uterine perforations, grand multiparity and trauma[1]. Pregnancy with a previously caesarean scarred uterus is therefore considered a high risk pregnancy. The incidence of uterine rupture varies between 1 in 1280 deliveries to 1 in 18500 deliveries, with about 90% occurring after a caesarean section [2]. BONGOE[1] working at the Central Maternity reported a 2.22% rate of rupture of a previous caesarean section scar which is higher than the 1% reported by other authors[1,2,3,4]. In clinical practice spontaneous uterine rupture is less common and occurs mostly in uteri with classical scars in 4-9% of cases [3, 4]. Although pregnancy occurring after an abortion may be considered risk free, the situation may be different after an induced abortion, as we have reported.

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Case History N°1

A G5P2022 single woman aged 25 years was admitted into the service on the 02/03/06 at about 38 weeks gestation in latent labour. The woman was well until about 18 hours before admission when she developed a sudden pain in the abdomen. The pain was of increasing intensity with no antalgic position and was neither accompanied by vomiting, fever nor diarrhoea. The patient experienced the pain in the umbilico-epigastric region. The pain hindered walking and was aggravated by movement in the right or left lateral decubitus position. She initially consulted a midwife, who after evaluation, advised her to consult at the Central Maternity for malposition of the foetus.

The past medical history was uneventful. She had a normal vaginal delivery in the second and third pregnancies with birth weights of 3 and 3.2 kg respectively. The first pregnancy culminated in an induced abortion by aspiration without any complications. The fourth pregnancy was a self induced abortion at 4 months of gestation. She injected potassium hydroxide vaginally which was followed two days later by the expulsion of a macerated foetus. The procedure was complicated by bleeding necessitating the neighbour to help her in the process. She failed to determine the technique used but antibiotics were prescribed for seven days. The follow-up was not satisfactory because she continued bleeding and later developed. In the course of the treatment she convulsed necessitating hospitalisation. During the hospitalisation she had a dilatation and curettage and antibiotic therapy.

The present pregnancy was uneventful until the onset of pain. She was regularly followed-up and routine anti-malarial and haematinics administered. Routine laboratory test done, were within normal limits, she was of blood group O Rhesus positive and was not immunocompromised.

The systemic enquiry revealed absence of foetal movement after the onset of the pain. No other significant symptoms were reported.

Physical examination on admission showed a satisfactory general state, with normal parameters (pulse 86/minute, B.P 100/60mmHg) but pale conjunctivae. Obstetrical examination disclosed a foetus in transverse lie and absence foetal heart tone. Bimanually the cervix was 80% effaced, 2cm dilated and the presenting part was not felt vaginally. The attending physician suspected a transverse lie and intrauterine death and requested an ultrasound. The ultrasound results confirmed an intrauterine death and suspected the presence of a type III placenta praevia.

At re-evaluation by a second consultant on day two of admission, an easily palpable foetal parts, peritoneal irritation, abnormal lie, absence of foetal movements were observed. Vaginally the presentation was inaccessible. A clinical suspicion of an abdominal pregnancy was made and a repeat ultrasound requested. This time the vaginal route was used and the uterus was found to be empty with the foetus lying outside the uterine cavity thereby confirming the clinical suspicion.

After routine pre-operation investigation, she had an exploratory laparotomy and a macerated male foetus weighing 3400gms was found within the abdominal cavity, the placenta was adherent to a fundal rupture defect and to the parietal peritoneum. Three other healed scars from uterine perforation were seen around the left corneal region and anterior to the zone of rupture. Routine extraction of foetus and placenta, closure in two layers of the rupture, bilateral tubal ligation and peritoneal tioletting were carried out and the abdomen closed in layers. The post-operation period was uneventful; she received three units of blood before and during surgery. She was discharged on day seven after surgery and post-operation review at six weeks was uneventful.

Case History No 2

The second case was a 19 year old, married, G3P1010, was admitted in active labour at 33 weeks gestation in November 2005. Labour progress was uneventful until she felt a sudden sharp pain in the abdomen and then developed signs of shock with a fast pulse rate (106/minute), sweating and low blood pressure (80/50mmHg). The past medical history was not contributory. She had an intrapartum foetal death at the age of sixteen and a spontaneous abortion two years later. She later acknowledged that the abortion was unsafe, occurred at four months and was complicated by post-abortum infection. She was regularly followed up antenatally and routine haematinics and intermittent preventive treatment for malaria administered. After a brief physical examination, the diagnosis of intrapartum uterine rupture was made and an emergency laparotomy done. A fundal rent between the two cornua of 8cm long was found at surgery with a haemoperitoneum of 2000ml. A male foetus weighing 1.860gms was extracted from the abdominal cavity together with the placenta. The rent was repaired in two layers and bilateral tubal ligation done. The post operative follow up was uneventful. The woman was discharged on day seven post operation.

Case History N° 3

The third case was a 35 years old, G6P3023 single woman, who reported at the onset of labour for abdominal pain and absence of foetal movements at the emergency service of the central maternity in October 2005. The woman had routine antenatal care visits in a health centre in Kwabang. Intermittent preventive treatment for malaria and haematinics were administered. All laboratory test done were within normal limits. She was a mother of three, two boys and a girl with two abortions. A spontaneous first trimester abortion occurred in the first pregnancy and a second trimester abortion, complicated by prolonged bleeding was also reported in the fifth pregnancy as reconstituted after treatment. On examination the woman was conscious, well oriented in time and space. She had normal parameters with a pulse of 80/minute and a blood pressure of 110/60mmHg. The foetus was in a longitudinal lie, with cephalic presentation but foetal heart tones were absent. On bimanual examination the cervix was 5cm dilated, 70-80% effaced and the station at -1. A presumptive diagnosis of abruptio placenta was entertained and labour ordered to continue. An IV line with 10 units of oxytocin in 500 ml of glucose 5% was instituted and membranes ruptured. She delivered about six hours later. Delivery was complicated by placenta retention. The consultant's opinion was requested and at his evaluation a suspicion of uterine rupture at the fundus was made. An emergency laparotomy was ordered. The operative finding was a fundal rent with scarred edges of about 6cm. There was no active bleeding. The rent was repaired and the tubes ligated.

II- DISCUSSION

Complete uterine rupture is the loss of continuity of the three layers of the uterus. Several factors are incriminated in the genesis of uterine rupture, amongst which are previous uterine scars such as classical caesarean section, lower segment caesarean section, myomectomy, uterine perforations, grand multiparity and trauma[1]. Pregnancy on a previous caesarean scarred uterus is therefore considered a high risk pregnancy. Pregnancy occurring after an induced abortion is often considered risk free. The type of abortion, particularly unsafe abortion is usually not reported for fear of stigmatisation as was evident in the above cases. The patients acknowledged terminating a second trimester pregnancy only after surgery. In clinical practice spontaneous uterine rupture is less common and occurs mostly in uteri with classical scars in 4-9% of cases [3, 4]. The prevalence of uterine rupture varies between

0.43 and 1.7 % [4, 5]. The incidence of caesarean section is on a constant increase. TAKEM [6] working at the Central Maternity reported a caesarean section rate of 8%. Rupture of the uterus complicating a previous induced second trimester abortion is rare as was evident by the scanty literature on the topic. SHIAU et al, LOBAUGH et al, CREININ et al, FEHR, and NDOKI et al, [7-10] reported cases of uterine rupture following hysteroscopic metroplasty, uncomplicated resectoscopic treatment for Ashman's syndrome, hysteroscopic fundal perforation and voluntary termination of pregnancy. Uterine rupture usually occurs with the onset of uterine activity as was seen in the second patient. Uterine rupture occurs more in women receiving prostaglandins for induction of labour or during induction or augmentation of labour with oxytocin. Prostaglandins may induce biochemical changes in the uterine scar favouring dissolution, and therefore predisposing the uterus to rupture at the lower segment, similar to the changes seen in the cervix during ripening with prostaglandins. They were multiparous women without a history of previous surgery, thus low risk patients for rupture of the uterus in spite of the antecedent history of unsafe abortion. Primiparous women rarely rupture because obstructed labour leads to cessation of uterine contractions. Secondly the amount of fibrous tissue within the uterine muscle increases with parity, consequently the risk of rupture increases with parity. Thorough clinical history is the cornerstone of good medical practice, which was deficient in these cases. Severe morbidity may complicate second trimester abortion and consist of perforation, infection and peritonitis as was reported in all the cases. Uterine rupture is an obstetric emergency and its management depends on the experience of the physician, the hemodynamic status of the patient, the availability of blood, length of the uterine defect, the anaesthetist and the time lapse between rupture and surgery. The principle remains, the quickest method that will save time. Fundal defects were found in the three women at laparotomy and repaired in two layers, followed by bilateral tubal ligation. The edges of the defect were scarred and not bleeding suggesting a chronic process. Uterine rupture in subsequent pregnancy with or without labour pain commonly occurs at the fundus. The tubes were ligated because of the zone of rupture was at the fundus, several scarred wounds were found and the old nature and inflammation caused by placenta insertion. The operation was carried out eight days after admission in the first woman confirming the chronic nature of the rupture. The two other ruptures were sudden and were operated as emergencies. FEHR [10] reported a case of uterine

rupture occurring in a woman with previous voluntary abortion in the second trimester.

FEHR [10] proposes that the possibility of a uterine perforation should be suspected when patient presents as a possible placenta abruption. This was the presumptive diagnosis in patient three, rupture discovered after prolongation of the third stage of labour. Some authors do advocate abdominal hysterectomy for uterine rupture [10], but individualisation of patients and the experience of the physician should guide decision making.

III- CONCLUSION

The possibility of a spontaneous uterine rupture must always be considered when sudden pain occurs in pregnancy with a past history of voluntary abortion especially if the abortion occurred in the second trimester. The importance of a good history and physical examination cannot be over emphasized ■

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