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Ruptured uterus in a primigravida: a case report

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Summary
Maternal mortality and morbidity have remained very high in the developing countries and one of its commonest causes is ruptured uterus, which in a primigravida is rather unusual. The patient reported was a primigravida with no previous uterine scar who had prenatal care and delivery of a live male infant at a private clinic in Ibadan. The identifiable aetiological factors in this case are pitocin augmentation and manual removal of the placenta. Fortunately, a timely exploratory laparatomy averted another mortality. This is not usually the case in the majority of high-risk patients labouring outside a proper hospital setting consequent upon a declining economy and the rising influence of religion. Methods to reduce this obstetric catastrophy are discussed.

Keywords: *Primigravida, manual removal of the placenta; ruptured uterus.*

Résumé
La mortalité maternelle et la morbidité restent très elevees dans les pays en voie de développement et l'une des causes les plus communes est la rupture de l'utérus qui dans une primgravidae est plutôt exceptionnel. Le malade rapporté était une primigravidae sans la cicatrice utérine antérieure qui avait eu un soin prénatal et qui avait accouche un enfant vivant dans une clinique privée d' Ibadan. Les facteurs etiologiques identifiable dans ce cas est l' augmentation du pitocine et l'enlevement manuel du placenta. Heureusement, une laparatomie exploratoire a temps a permi d'eviter une autre mortalite. Ceci n'est pas le cas dans la majorite des parturitions a haut risque hors d'un hôpital adéquat, en mettant ceci dans les consequences d'une economie déclinante et l'influence accrue de la religion. Les methodes pour réduire cette catastrophe obstétrique y sont discutées

Introduction:

Rupture of the gravid uterus is a life threatening complication of pregnancy. In the developed countries, where the level of obstetric care is adequate, its occurrence is rare. The same cannot unfortunately be said of countries where poverty, ignorance, illiteracy, aversion to abdominal delivery, traditional practices and grand-multiparity make this serious complication a common occurrence. Even then, the occurrence of uterine rupture in a primigravida is very rare indeed and it is usually due to one or more of the unethical practices. There is a paucity of information from many centres.

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However, poor community awareness of health care delivery systems, poor standards, of antenatal care and obstetric management account for the occurrence of ruptured uterus in the primigravida when it does. The case reported is therefore aimed at defining the factors responsible for this rather uncommon complication of labour management. Changes in obstetric care are proposed to reduce the contribution of this obstetric catastrophe to maternal mortality.

Case report

The patient was a 24 year old unbooked primigravida who presented at the emergency department of the University College Hospital (UCH), Ibadan with a 4-hour history of bleeding per vaginam following a spontaneous vaginal delivery, at a private clinic in Ibadan, of a live male 3.2kg infant at 41 weeks gestation. She had prenatal care and laboured for 17 hours at the private clinic. Her labour was augmented with pitocin in the last 8hours. Following the delivery of the baby, the placenta was retained and attempts at its removal led to severe vaginal bleeding with passage of clots and dizziness. She was said to have fainted three times before she was transferred to the UCH, Ibadan.

At the emergency room in UCH, she was found to be restless and markedly pale with a packed cell volume of 16 percent. She was hypotensive with a low volume thready pulse. Her pulse rate was 128 beats per minute and her palpatory systolic blood pressure measured 50mmHg. Her abdomen was distended with generalized marked tenderness, rebound and guarding. The uterus was 22 weeks size and flabby. Ascities was demonstrable by fluid thrill and abdominal paracentesis yielded a free flowing non-clotting blood.

She was resuscitated with intravenous crystalloids and oxygen therapy. She had 2 units of uncross matched blood transfused and an emergency exploratory laparotomy was carried out under general anaesthesia. Operative findings included haemoperitoneum of 3 litres, complete transverse laceration of the anterior uterine wall measuring 10cm. There was no uterine abnormality noted. She had repair of uterine rupture and a further 2 units of blood transfused postoperatively.

She developed swinging pyrexia on the third postoperative day due to puerperal sepsis. An abdominal ultrasound scanning revealed an intra-abdominal abscess of 2x3cm in diameter. This was managed conservatively with intravenous ceftriaxone and metronidazole. She made a very slow but sustained and complete recovery and was discharged after 35 days.

Discussion

Uterine rupture is a reflection of the level of health care delivery services available in a community as well as the utilization of these facilities [1]. The case reported is just a tip of the iceberg, as many of such an obstetric complication would have resulted in mortality without hospital referral.

Spontaneous uterine rupture in a primigravida is a rare condition. It is generally associated with mullerian anomalies [2]. Other cases are associated with injudicious oxytocin or prostaglandin use [3, 4], instrumental vaginal delivery [5], manual removal of the placenta, abnormal presentation and labour in scarred uterus [6, 7].

The patient reportedly received prenatal care at a private clinic. About 95% of cases of ruptured uterus lacked prenatal care [8]. Such risk groups would have been identified if they had received prenatal care and laboured in a hospital setting. Patients' cultural attraction to vaginal delivery need not have prevented labour in a safer environment.

Pitocin augmentation and manual removal of the placenta are the identifiable aetiological factors in this case. These generally should only be performed where facilities are optimum and recourse to laparotomy possible. Ruptured uterus is largely caused by preventable factors in the developing countries [8] whereas over-enthusiastic management of labour is the chief cause in advanced communities [9]. The fear of abdominal delivery in Nigeria calls for extreme caution. Operative vaginal delivery when indicated should be performed by the most experienced obstetrician with the aim of significantly reducing the risk of uterine rupture [5].

The time of diagnosis varies widely. Some cases are misdiagnosed as abruption but the coexistence of abruptio placenta and ruptured uterus is very rare even though one can easily be mistaken for the other [10]. A high index of suspicion based on a patient's history, physical examination and sound clinical judgement will reduce misdiagnosis. The occurrence should be suspected whenever there is sudden fetal heart abnormality during labour or unexpected ante or postpartum haemorrhage [10]. Cases related to mullerian anomalies are usually diagnosed before the onset of labour. Previous uterine scar may give rise to rupture before or during labour. Cases diagnosed after vaginal delivery are usually at exploration of lower uterine segment occasioned by primary postpartum haemorrhage. Ultrasound helps a great deal in the diagnosis of uterine anomalies and ruptures [2]. In the case reported however, the suspicion of uterine rupture was made in the early puerperium with typical clinical features.

Once uterine rupture has been diagnosed, immediate resuscitation and laparotomy are mandatory [3, 7,9]. The diagnosis to operation interval needs to be as short as possible if a worse morbidity and high mortality are to be avoided. Delays are often due to inadequate facilities for surgery (i.e. anaesthetic drugs, parenteral fluids and blood) while some patients delay surgery by failing to give consent [8]. Such delays worsen morbidity and increase mortality of this complication.

Rupture of the uterus is a recognized complication of manual removal of the placenta. A gentle and proper technique of digitally separating the placenta away from the decidua is expected to result in negligible or no morbidity. Generally, the surgical procedure performed for ruptured uterus depends on the patient's stability and extent of the rupture [7]. The quickest form of treatment has been advocated for these critically ill patients. The option is between repair and hysterectomy [9,11].

Obviously, our women have aversion for hysterectomy since more premiums is placed on childbirth [8]. Consequently, attempts to repair are made readily in these nulliparous women. The management approach of suture repair usually with the hope of preservation of the patients' future fertility is the gold standard [9]. There is need, however, to monitor subsequent pregnancies for risk of recurrent uterine rupture and pregnancy outcome [9,11]. Repair alone is offered to all nulliparous women whose ruptures are linear or transverse in the lower uterine segment and who had no evidence of infection.

Damage to the bladder is the commonest associated injury most of which occur with scarred uteri. There is no doubt that the perinatal mortality in ruptured uterus is very high and averages 50 to 75 percent whenever it occurred prenatally or intrapartum [7].

Conclusion

Uterine rupture in a primigravida is a rare obstetric tragedy, suture repair should be considered whenever possible to maintain the patients future fertility. Obviously, our primary problem is prevention, with high-risk labours being managed in a hospital setting. This is not always the case in our population.

Although, limitation of facilities is a problem, sadly, patients do not make use of available services. For this current trend to be reduced, legislation should be made to restrict the establishment of mushroom, inadequately equipped and staffed hospitals, clinics and maternity homes. Government must increase funding of safe health care while spiritual homes and churches should be prohibited from booking high-risk patients.

Finally, it is true that the ultimate long- term approach is to prevent the accident of uterine rupture from occurring by addressing the socio-economic and cultural factors associated with the condition – a task that is beyond the clinician [12]. The immediate and feasible option available to us therefore is to ensure prompt treatment of those cases brought to maternity units, using all resources at our disposal.

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