

## A Case Report on Uterine Rupture and Changing Trends in India

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### Abstract

*Background:* Maternal morbidity and mortality has been a major World Health Organization concern over the years, especially in India. This paper reports uterine rupture with hypovolemic shock managed at Cama and Albless Hospital, Mumbai. Skilled care before, during and after childbirth can save the lives of women and newborn babies. Between 1990 and 2015, maternal mortality worldwide dropped by about 44%. Between 2016 and 2030, as part of the Sustainable Development Goals, the target is to reduce the global maternal mortality ratio to less than 70 per 100 000 live births. *Case Presentation:* Mrs. NN aged 30 years, G5P4L4, from Bhiwandi, Thane was admitted to our Department with decreased foetal movements and history of labour pain for 6 hours which stopped an hour ago. Patient gives history of trial of labour at home after which she went to IGMC Bhiwandi where she was diagnosed with an intrauterine foetal demise and hence was referred to CAMA Hospital. She underwent a total abdominal hysterectomy and blood transfusion. Her post-operative stay in hospital was uneventful. *Conclusion:* Uterine rupture is a complication that can be eliminated under conditions of best obstetric practice. The survival of patients after uterine rupture depends on the time interval between rupture and intervention, and the availability of

blood products for transfusion. We must focus on creating awareness to conduct trial of labour and delivery in a hospital setup with trained personnel.

**Keywords:** Uterine; Hypovolemic shock; Transfusion; Post Partum Haemorrhage.

### Background

Maternal mortality, remains one of the major concerns of the World Health Organization. Nearly 45,000 women die due to complications related to child birth every year in India. The WHO said, the major cause of maternal deaths is Post Partum Haemorrhage (PPH), 37% which is often defined as the loss of more than 500 – 1000ml of blood within the first 24 hrs following childbirth.

Safe delivery is defined as institutional deliveries plus deliveries conducted at home by skilled staff and do not include deliveries by trained birth attendant (dais). But the international definition of skilled attendant disqualifies either the trained birth attendants (TBAs) or the 18 months trained auxiliary nurse midwives (ANMs). In developing countries, many women are assisted in delivery by trained birth attendants or relatives while many deliver alone. Only 53% of the pregnant women in developing countries have the assistance of skilled health personnel (a midwife or a doctor) and only 40% give birth in a hospital or a health centre.

We are reporting a case of uterine rupture during labour where labour was assisted at home by traditional dai which was unsuccessful and hence she was referred to the local hospital where she was diagnosed

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with intra uterine foetal demise. She was diagnosed with rupture uterus at CAMA Hospital where she was managed accordingly.

### Case Presentation

Mrs. NN aged 30 years, G5P4L4, from Bhiwandi, Thane was admitted to our Department with decreased foetal movements and history of labour pain for 6 hours which stopped an hour ago. Patient gives history of trial of labour at home after which she went to IGMC Bhiwandi where she was diagnosed with an IUFD and hence was referred to CAMA Hospital. Patient was brought by relative to Cama Hospital with history of having been told at IGMC, Bhiwandi that her baby died in utero. She was 39 weeks and 6 days calculated from her last menstrual period. On examination, the conjunctivae were pale and the pulse rate 100 beats per minute. Her blood pressure 110/80 mm Hg. The abdomen was distended and tender on palpation. There was mild vaginal bleeding. Patient was sent for an emergency ultrasonography of the abdomen.

During this period, the patient was secured an intravenous line with a 18 G catheter, obtained blood for full blood count, coagulation studies, typing and cross match. 3 Units whole blood and FFPS were kept ready in a suspected case of Abruptio with DIC.

USG abdomen revealed a large retroplacental echogenic lesion measuring 9 x 9 cm along the left

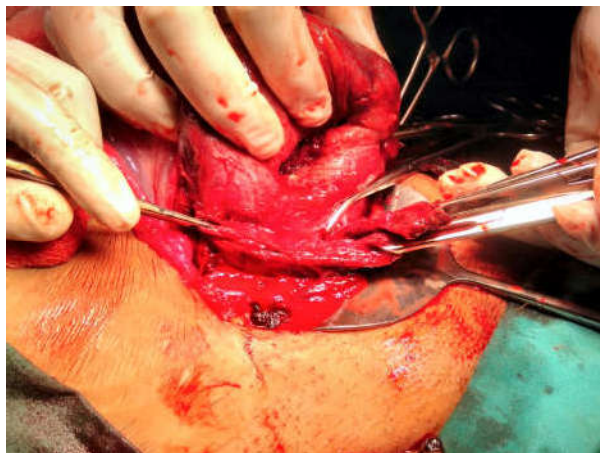


Fig. 1:

lateral wall with no vascularity most likely suggestive of retroplacental hematoma. IUFD of 38.5 wks.

During surgery, we found that there was hemoperitoneum estimated at about 400 mL and the uterus was completely torn transversely in the lower uterine segment extending posteriorly (Figures 1).

The fetus was found in the peritoneal cavity. Total abdominal hysterectomy and peritoneal toileting was carried out. The patient was transfused 2 units of whole blood during surgery and one unit post operatively. She was then transferred to the ward where she was thoroughly monitored for 48 hr. Her hemoglobin level the day after surgery was 8.0 g/dL. She remained at the Department of Obstetrics and Gynecology for 8 more days and her hemoglobin level on discharge was 9.1 g/dL. Patient was discharged on hematinics and vitamins.

### Discussion

#### *Maternal Mortality*

Maternal death is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes [1]. Uterine rupture and maternal death from hemorrhage is a preventable complication of childbirth. The average Indian maternal mortality rate in 2011- 2013 is 178 deaths per 100000 live births. Maharashtra stands at the second place at 68 after only Kerala with the least recorded deaths of 61 per 100000 live births [2].

#### *Incidence and Causative Factors - Uterine Rupture*

Uterine rupture is a serious obstetric complication, with high morbidity and mortality, particularly in less and least developed countries. For developed countries, the data available indicate that the prevalence of uterine rupture for women with previous caesarean section is in the region of 1%, whereas for women without previous caesarean section, based on one large report, it is extremely rare (<1 per 10,000).

For less and least developed countries, uterine rupture is a more prevalent and serious problem. The most important shortcoming of the data available is the lack of differentiation between uterine rupture with and without previous caesarean section. Overall, most rates ranged between 0.1% and 1%. Reports from Nigeria, Ghana, Ethiopia and Bangladesh were associated with unscarred uterus. Maternal mortality ranged between 1% and 13%, and perinatal mortality between 74% and 92% Prevention of uterine rupture of unscarred uterus requires the following: reduction of unwanted pregnancies, particularly for women of high parity; accessibility of obstetric services including caesarean section for obstructed labour;

where conventional caesarean section facilities are not accessible, innovative solutions such as symphysiotomy or caesarean section with local analgesia should be considered [3].

In a case study done by Dr Sinha et al from Kasturba Medical College, New Delhi, India, 47 cases of uterine rupture were diagnosed out of total 76,766 deliveries. The incidence of rupture was calculated to be one in 1,633 deliveries (0.061%) [4]. In a study of 32 080 deliveries in JIPMER (India), 93 (0.28%) women had a ruptured uterus. The majority (77%) had a scarred uterus. Among women with unscarred uterus, 14 presented with rupture and seven of these women were induced in hospital. It was then concluded that the strongest association of ruptured uterus was with previous scarred uterus, multiparity and <18 months' duration from the last cesarean section [5].

Due to multiple reasons including, lack of health education, ignorance, or poverty; significant proportion of women in our country do not get regular antenatal checkup, preferring home delivery by traditional birth attendant instead of visiting the hospital. They visit the hospital in emergency situation after prolonged dysfunctional labor when traditional birth attendant fails to deliver the baby. The prolonged dysfunctional (obstructed) labor increases the risk of uterine rupture and rupture of previous cesarean scar [4].

#### *Uterine Rupture and Outcome*

A study conducted by Elkady et al during 1979-1988, reported 126 cases of ruptured uterus occurring in 46,207 deliveries; these 126 cases were retrospectively analyzed in relation to causes, age, parity, maternal mortality and morbidity, perinatal mortality and management. Some of the results were compared with other authors. The incidence was 1/367 (2.7/1000 deliveries), traumatic rupture accounted for 42.86% while spontaneous rupture accounted for 57.14%. Maternal mortality was 21.43% and the perinatal mortality was 73.19% [6].

A retrospective analysis of cases of uterine rupture was carried out at B.P. Koirala Institute of Health Sciences, Nepal, between February 1999 and January 2004 reports maternal mortality of 13.5% and perinatal mortality 83.3%; these were both higher in the unscarred uterus [7]. A retrospective study of 26 proven cases of uterine rupture in Kandang Kerbau Hospital, Singapore between January 1983 to December 1992 reports 1 (3.8%) maternal death. Maternal morbidity included bladder injuries, broad ligament haematoma, disseminated intravascular coagulation and gastrointestinal bleeding. The overall incidence of fetal loss was 7.4%. The commonest

antecedent factor was previous lower segment caesarean section for the scarred group and cephalopelvic disproportion in the unscarred group. Overall, 46.2% of the patients had augmentation with oxytocin. The major clinical presentations were abnormal cardiotocogram (25%) and blood-stained amniotic fluid (20%) in the scarred group, and postpartum haemorrhage (50%) and shock (33%) in the unscarred group [8].

#### *Delivery Patterns and Attitude in India*

In a cross sectional study done in the Verka block of Punjab in 2005- 2006, out of 945 respondents who delivered a baby, about two-thirds i.e. 625 (66.1%) of the respondents reported of home delivery and 320 (33.9%) reported of institutional delivery. The most reason to prefer home delivery was traditional attitude 539 (86.2%) followed by economic reasons 84 (13.4%). Only 2 (0.3%) respondents stated that the place for institutional delivery was far way [9].

In a study conducted in rural Karnataka, most of the study participants (53.96%) delivered at home followed by private hospitals (25.39%). In this study among the home deliveries only 23.53% were conducted by trained dais where as remaining 76.47% were conducted by others. When we enquired about reasons for not utilizing Primary Health Centre, Vantamuri for deliveries most (33.33%) of study participants told that they delivered at their mother place, some (22.80%) told that there was no proper facility at Primary Health Centre. Although most of pregnant women were registered at the Primary Health Centre, majority of the deliveries were conducted at home by untrained dais [10].

In a study conducted in rural Haryana in 2007-2008, out of 227(56.7%) mothers had institutional deliveries. Among home deliveries 173(43.3%), attending personnel were: 30(17%) untrained dais, 103(59%) trained dais; 19% health personnel and 5% others. Illiteracy, poverty, no accompanying person, lower castes, inadequate antenatal check-ups, previous home delivery etc. were significantly associated with home deliveries. 50% mothers considered that institutional deliveries were not necessary [11].

#### **Conclusion**

India alone accounts for nearly 20% of the global burden of both maternal and child deaths against about 16% of its share in world population. Better awareness and education to reach the closed communities and rural population to overcome

traditional beliefs about pregnancy and child birth in India, better family planning services and ensuring their utilisation by creating awareness to reduce unwanted pregnancies and eventual morbidity must be given importance.

### References

1. WHO | Maternal mortality ratio (per 100 000 live births) [www.who.int/healthinfo/statistics/indmaternalmortality/en/](http://www.who.int/healthinfo/statistics/indmaternalmortality/en/).
2. <http://niti.gov.in/content/maternal-mortality-ratio-mmr-100000-live-births>.
3. [http://www.who.int/reproductivehealth/topics/maternal\\_perinatal/bjog\\_112\\_pp1221-1228.pdf](http://www.who.int/reproductivehealth/topics/maternal_perinatal/bjog_112_pp1221-1228.pdf).
4. Maruti Sinha, Ridhima Gupta, Pushpender Gupta, Rekha Rani, Ramanjeet Kaur, Rahil Singh. Uterine rupture: A seven year review at a tertiary care hospital in New Delhi, India
5. Veena P, Habeebullah S, Chaturvedula L. A review of 93 cases of ruptured uterus over a period of 2 years in a tertiary care hospital in South India. *J Obstet Gynaecol.* 2012;32:260-263. doi: 10.3109/01443615.2011.638091. [PubMed] [Cross Ref].
6. Elkady AA, Bayomy HM, Bekhiet MT, Nagib HS, Wahba AK. A review of 126 cases of ruptured gravid uterus.
7. Chuni N. Analysis of uterine rupture in a tertiary center in Eastern Nepal: lessons for obstetric care.
8. Chen LH, Tan KH, Yeo GS. A ten-year review of uterine rupture in modern obstetric practice.
9. Rajesh Garg, Deepti Shyamsunder, Tejbir Singh and Padda Avtar Singh. Study on Delivery Practices among Women in Rural Punjab.
10. Yogesh Kumar S and Rajesh R Kulkarni. Delivery practices in a rural area of North Karnataka - A cross sectional study.
11. P Anita, R Vidya, Pattern of Deliveries in Rural Areas of a District in Haryana, India.
12. Thomas Obinchemti Egbe, Gregory Edie Halle-Ekane, Charlotte Nguetack Tchente, Jacques Ernest Nyemb, and Eugene Belley-Priso. Management of uterine rupture: a case report and review of the literature.