# Rupture of the Uterus

Pages with reference to book, From 174 To 176

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## Abstract

Fifty cases of uterine ruptur. ware managed in 4 years giving a frequency of 1 per 89.9 deliveries. There was an obvious difference between those with a previously scarred uterus (34) vs those without a scar (16) cephalopelvic disproportion, grand multiparity and mismanagement of oasis by traditional birth attendant (TBAs) wars the common etiologic factors in the unscarred uterus, cephalopelvic disproportion, forceps delivery, grand muitiparity and prolonged first stage of labour were the common etioiogic factors in patients with previously scarred uterus, in the unscarred group both maternal and toetal (81.6%) mortalIty was high (JPMA 43:174, 1993).


## Introduction

Rupture of the uterus is still considered to be one of the major obstetric tragedies in the developing countries[1-3] accounting for a high foetal and maternal mortality[1,2,4]. Most of these cases occur due to poverty, ignorance and neglect[4]. Lack of adequate rural health services and public health education also contribute to the high occurrence of uterine rupture in this part of the world.

## Patients and Methods

From January, 1984 to December, 1987,50 patients of ruptured uterus were managed in the Obstetric Unit of Civil Hospital, Karachi. It is the main referral hospital for the city's general practitioners, small maternity homes and private hospitals. In addition, large number of serious patients from urban and rural Sindh and Balochistan are admitted directly. The records of these patients were reviewed to determine the etiologic factors, to obtain data, so that steps could be taken to prevent its occurrence and improve its management. Frequency, types of tears and surgery performed were evaluated. The cases were investigated with special reference to foetal and maternal outcome. The patients were divided into two groups - those without a previously scarred uterus (34) and those with a scarred uterus (16).

## Results

A total of 4,496 deliveries were conducted during the 4 year period, of those 50 had ruptured uterus giving a frequency of 1 per 89.9 or 11 per 1,000 deliveries. Those patients who had visited the antenatal clinic atleast twice were considered to be registered for hospital delivery. Of the total 22% were registered, 3 (8.8%) in the unscarred group and 8(50%) in the scarred group. Fifty-nine percent ruptures in the unscarred group occurred between 30-39 years. In the scarred group 62.5% ruptures occurred between 20-29 years (Table I).

**Table I. Age in Scarred vs Unscarred cases.**

| Age (years) | Scarred | | Unscarred | |
|---|---|---|---|---|
| | No. of patients | (%) | No. of patients | (%) |
| 20 | - | - | - | - |
| 20-29 | 10 | (62.5) | 11 | (32.3) |
| 30-39 | 6 | (37.5) | 20 | (58.8) |
| 40 and above | - | - | 3 | (8.2) |

Parity ranged from 0 to 10 and except for one primigravida all were multigravidae. In the scarred group, 50% patients were para 1 while in the unscarred grou 55.9% were para 6 and above (Table II).

**Table II. Parity in Scarred vs Unscarred cases.**

| Para | Scarred | | Unscarred | |
|---|---|---|---|---|
| | No. of patients | (%) | No. of patients | (%) |
| 0 | - | - | 1 | (2.9) |
| 1 | 8 | (50) | 1 | (2.9) |
| 2 | 2 | (25) | 3 | (8.8) |
| 3 | 0 | (0) | 2 | (5.8) |
| 4 | 1 | (6.2) | 5 | (4.7) |
| 5 | - | - | 2 | (5.8) |
| 6 | 5 | (31.2) | 19 | (55.9) |

Thirty-seven (74%) patients came from urban areas and only 13(26%) came from rural areas. Common causative factors for rupture in the unscarred group were cephalopelvic disproportion in 15(44%) cases, high parityin 12(35.2%) and TBS's (definite history) in 9 (26.4%) cases. In the scarred group, 6 cases (37.5%) were of high parity and 3 (18.7%) were discovered on routine examination of scar after forceps delivery. The most common presenting features of uterine rupture in both groups were absence of foetal heart sounds, tachycardia, uterine bleeding, abdominal pain and tenderness. In the scarred group, five cases were confirmed at laparotomy and two on routine examination of scar following elective forceps delivery. Nine were 'silent' incomplete ruptures which were detected on routine opening of abdomen for elective caesarean section. One patient had 'silent' rupture uterus while waiting for elective LSCS in hospital. She had abdominal surgery on two previous occasions, one for LSCS and the other for repair of rupture uterus. Silent ruptures remained undetected till LSCS was done because all these cases were symptom-free and haemodynamically stable. A high frequency of rupture in the scarred group may be due to the late arrival of patients in established labour from home of some other smaller maternity unit and default from antenatal clinic visits. In the unscarred group, 50% were diagnosed on admission and the rest were diagnosed when routine LSCS was carried out for some indication. Failure to diagnose half of the ruptures in this group was again due to these patients being haemodynamically stable. Thirty patients had complete ruptures, 11(68.75%) in the scarred group and 1 (55.88%) in the unscarred group. Fifty percent of ruptures In the scarred group were transverse and 55.8% of ruptures in the unscarred group were compound. In the unscarred group, nine

patients (26.47%) had broad-ligament haematoma. No broad-ligament haematoma was found in the scarred group. All except two, were anterior ruptures. Associated vaginal tears were found in the unscarred group (5.88%) because attempts had been made at vaginal delivery before referral to CHK. Bladder injuries (12.5%) were seen in the scarred group due to close proximity of the bladder with the lower uterine segment. Left internal iliac artery was found torn in one case of unscarred group where there was a compound extensive rupture on the left side. This had to be ligated In this case. No bowel Injury was encountered in both groups. Repair of uterus was the commonest treatment in the scarred group (62.5%). Hysterectomy was done more commonly in the unscarred group (68%). Repair was not necessarily associated with tubal ligation. Tubal ligation was not done on those patients whose ruptures were transverse and easy to repair and who had no living children. In the scarred group 50% patients were discharged within 10 days, whereas in the unscarred group the stay was between 11-20 days (26.3%), three patients (8.8%) were, however, hospitalised for more than 51 days. In the unscarred group 6 patients had resuturing of abdominal wound due to complete dehiscence, 7 patients had UTI, two patients developed deep jaundice following massive transfusions. Two patients developed fistulae, one faecal and another vesicovaginal. In the scarred group, only two patients had postoperative complications; one had burst abdomen, other had UTI. There were five maternal deaths (10%) four in the unscarred group and one in the scarred group. All patients who died were unregistered (Table III).

**Table III. Maternal deaths resulting from uterine rupture.**

| Case No. | Age | Parity | Aetiologic factor | Surgical procedure | Postoperative complication | Transf. (Pints) | Cause of death |
|---|---|---|---|---|---|---|---|
| 1 | 25 yrs. | 1 | Cephalo-pelvic disp. | TAH + repair of bladder | P-sepsis | 10 | Septicaemia |
| 2 | 36 yrs. | 7 | a) Grand multi-parity<br>b) Relative C.P.D. | TAH + L.S.O. | | 1 | Septicaemia |
| 3 | 22 yrs. | 0 | a) Cont. pelvis<br>b) Breech<br>c) Gas gangrene | Subtotal Hysterec-tomy | a) Wound<br>c) Deep jaun-dice | 8 | Jaundice dehiscence |
| 4 | 22 yrs. | 2 | P. sepsis following home delivery | Repair | Died on 3rd P.O. day | 4 | Septicaemia |
| 5 | 35 yrs. | 9 | Obstructed labour | Subtotal hysterectomy | Died on P.O. day | 1 | a) Exsangui-nation<br>b) Septicaemia |

In the scarred group, five babies were born alive out of which one was an early neonatal death due to congenital anomaly (omphalocele).. Eleven cases (68.75%) had confirmed intra uterine deaths on admission. The foetal mortality rate in the series was 78%.

## Discussion

The frequency of rupture uterus in the present study was 1:89.9 which is higher than that reported In other studies between 1:93[4] to 1:546[5]. Two thirds of the ruptures in this series occurred in patients with a previously unscarred uterus. This Is similar to that reported by Golan et al[6], Poor antenatal care has

been found to be an underlying problem in this series. Only 22% cases were registered. This is in keeping with the registration rate quoted from the tropics[2]. The trend in the lower socioeconomic class of patients is to labour at home, being attended by traditional birth attendants (TBAs), who would refer the patients to Civil Hospital, Karachi only when delivery failed to take place after 2-3 days. In the unscarred group, grand multiparity was evident in 55.8% cases. This was higher than that reported from the tropics (42.7%)[2]. Spontaneous rupture of a primigravid uterus is rare[7]. There was only one case in this study. Cephalopelvic disproportion was the most common aetiologic factor in this study. This is comparable to the studies from the tropics[8,9]. Total hysterectomy was preferred over sub-total hysterectomy in this study. This is similar to the trend practised by Dyer et al[10]. Maternal mortality rate was 10% in this study which is lower than that reported in other studies[2,4,11], but higher than that reported by SchrInsky et al[12]. Overall foetal mortality rate was 78% In this study. This is lower than that quoted by others[8,9,11]. This study shows that majority of patients were 30 years of age or older and para 6 or more. This category of women are at high risk. Population at large should be made aware of the various methods of contraception and family planning services should be easily accessible to even those patients who live in far flung areas. High risk group of patients from far flung areas should be picked out and referred to larger hospital for management. Malpractice by TBAs and less trained medical practitioners in the private sector should be checked. Any patient with a scarred uterus should be given complete instructions and explained extensively about birth spacing before discharge from hospital. Scarred group should be admitted, three weeks before the expected date of delivery so that decision about mode and timing of subsequent delivery could be made by skilled obstetric personnel and not by junior staff.

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