RUPTURE OF PREGNANT UTERUS AT TERM

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SUMMARY

An analysis of eighteen cases of rupture uterus managed in the department of Gynaecology and Obstetrics, Hayatabad Medical Complex was made over a period of one year. The total number of deliveries during this period was 2882 making the incidence of rupture uterus 0.62%. In 55.55% of cases, rupture uterus occurred in mismanaged, obstructed labour in multi gravida. In 44.4% cases it occurred in patients with a previous uterine scar. Most of the patients were from suburbs of Peshawar were unbooked and from poor or middle class. The majority of these patients were above thirty years of age. Different surgical procedures were performed depending upon the parity, site and size of rupture, associated complication and maternal condition. The maternal mortality in this series was 5.55% and fetal mortality 38.88%.

INTRODUCTION

Rupture of the pregnant uterus is a life threatening complication associated with high maternal and fetal mortality and morbidity and loss of fertility due to resultant hysterectomy inevitable in some cases. It is an obstetrical catastrophe, which is preventable.[1] Uterine rupture may occur in an intact uterus or a scarred uterus. Rupture of an intact uterus occurs due to neglected and poorly managed labours in grandmultipara, inappropriate use of oxytocics, instrumentation and obstetric manoeuvres. The main cause of rupture in a scarred uterus is lack of appropriate counselling and inadequate or absence of antenatal care. With increasing number of women undergoing trial of labour after a previous caesarean, in an anticipation of vaginal delivery, separation of previous caesarean scare has become a common cause of rupture.[2]

Hayatabad Medical Complex, Peshawar is a tertiary teaching hospital where cases are referred from maternity homes, private hospitals and general practitioners in Peshawar, other parts of NWFP and most of Afghanistan. Due to poor transport facilities

CHARACTERISTICS OF PATIENTS
N = 18

Age in years	No	%
< 20	1	5.55
20–30	5	27.77
> 30	12	66.66
Parity		
1	2	11.11
2-5	6	33.33
6-9	8	44.44
> 9	2	11.11

TABLE – 1

and long distance most of the patients are brought late in shock and moribund state.

MATERIAL AND METHODS

This was a prospective observational study carried out from January to December, 2000 in the department of Obstetrics and Gynaecology, Hayatabad Medical Complex, Peshawar. Eighteen patients with ruptured uterus were treated during the study period. All patients admitted with rupture uterus or those developing this condition in the hospital were included. A detailed history including obstetrical details of present and past pregnancies, details of intrapartum events were recorded. Condition of patient was noted; perioperative findings, surgical procedure and results of investigation carried out for detection and management of complication were also recorded. An effort was made to detect avoidable etiological factors, to ensure a decrease in prevalence of rupture uterus and its associated maternal and fetal morbidity and loss.

Presentation	No	%
Antepartum haemorrhage	5	27.77
Cessation of labour pains	2	11.11
Hand prolapse	1	5.55
Haematuria	2	11.11
Shock	3	16.66
History of handling by TBA	7	38.88

TABLE – 2

RESULTS

During the study period 2882 women were delivered in Department of Obstetrics and Gynaecology. The incidence of rupture uterus during the study period was 0.62%.

Incidence of rupture uterus was found to increase with age and parity. The youngest patient was a gravida 2 who was admitted with obstructed labour and history of previous vesicovaginal fistula repair, she had both uterine and bladder rupture. (Table 1)

CAUSES OF UTERINE RUPTURE
N = 18

Causes of uterine rupture	No	%
Obstructed labour	10	55.55
Transverse lie	4	
Concluded pelvis	1	
Congenitally abnormal Baby	1	
Felopelvic disporportion	4	
Scarred uterus	8	44.44
Previous one caesarean Section	7	
Previous two caesarean Section	1	

TABLE – 3

Two cases presented postnataly. The first case one week after delivery, she had a history of prolong labour with birth of stillborn child at home. She presented with pyrexia, abdominal pain and foul smelling discharge per vaginum. The other patient had a difficult twin delivery at home and presented on the first postnatal day with

MODE OF DELIVERY
N = 18

Delivery	No	%
Vaginal delivery at home	2	11.11
Vaginal birth after caesarean	3	16.667
Spontaneous vaginal delivery	2	
Vacuum extraction	1	
Failed trail of labour after caesarean	1	5.55
Faied trail of vacuum after caesarean	1	5.55
Emergency lower segment caesarean for obstructed labour	4	22.22
Lparotomy followed by STAH	7	38.88

TABLE – 4

abdominal distention and pain. Nearly all patients were admitted through the emergency department with history of labour 12-24 hours prior to admission. Once the diagnosis of rupture uterus was made the patient required urgent and active resuscitative measures followed by immediate laparotomy. Five patients were admitted with antepartum haemorrhage, 2 cases had complete cessation of uterine contraction. 7 patients had history of handling by TBA and oxytocin infusion. (Table 2)

The common cause of rupture was obstructed labour (10), which were due to neglected transverse lie in 4 cases, contracted pelvis in one case, abnormal baby

ASSOCIATED COMPLICATIONS
N = 18

	No	%
Broad ligament haematoma	5	27.77
Rupture of urinary bladder	3	16.66
Cervical tear	3	16.66

TABLE – 5

MANAGEMENT
N = 18

	No	%
Subtotal abdominal hysterectomy	5	27.77
Subtotal abdominal hysterectomy + repair of urinary bladder	1	5.5
Repair of rupture uterus	4	22.22
Repair of rupture uterus + BTL	3	16.66
Repair of rupture uterus + repair of rupture bladder	2	11.11
Subtotal abdominal hysterectomy + internal iliac ligation	1	5.5
Total abdominal hysterectomy	2	11.11

TABLE – 6

in one case and fetopelvic disproportion in 4 cases. Rupture of scarred uterus occurred in 8 cases. (Table-3). In 7 cases rupture was diagnosed clinically. In 6 cases it was diagnosed during caesarean section done for obstructed labour and failed trial of labour in patients with previous scar. In 3 cases

MATERNAL MORBIDITY AND MORTALITY
N = 18

	No
During operation	
Cardiac arrest	1
Shock	7
DIC	3
Post operative	
DIC	4
Shock	5
Acute renal failure	1
Anaemia	16
Wound infection	3
Mortality	1

TABLE – 7

patient had a vaginal delivery and rupture was diagnosed when checking the integrity of previous scar. Two patients had a home delivery. Final diagnosis was based on the operative findings. (Table-4). Urinary bladder was ruptured in 3 (16.66%) cases, which is much lower than reported by Nkata (23%)[3] but higher then that reported by Glan.[4] (Table-5). All surgical procedures were done by senior residents or consultants, followed by close surveillance in the postoperative ward or intensive care unit (Table-7). Many patients had more than one complication, one woman died due to PPH and DIC.

DISCUSSION

The definition of uterine rupture is described by Plauche[5] as those cases of complete separation of the wall of the pregnant uterus with or without expulsion of the fetus that endanger the life of the mother and/or the fetus. The rupture may be complete or incomplete, asymptomatic dehiscence's are not included in this definition. The incidence of rupture of uterus in this study was 0.62% which is comparable to those reported in local studies from Karachi, 0.549% in Jinnah Postgraduate Medical Center,[6] 1.15% in Civil Hospital[7] and 0.4% in Sandeman Hospital Quetta.[8] The incidence is much lower in the developed countries, 0.03% in Canada[9] and 0.07% in the United States.[10] It is comparable to that of Nigeria 0.6%.[11] The incidence is reflective of over all health care system, illiteracy, poverty, lack of vigilant obstetric care coupled with delayed referral and poor facilities for transport of patients from remote areas are accounted for the high incidence. Majority (55.55%) were spontaneous rupture with intact uterus. 44.44% ruptures were in scarred uteri. The ratio of rupture of unscarred to scarred uterus was 1.25:1. A study from Karachi by Hassan et al has reported a ratio of 1.6:1[12] where as study by Aslam from Lahore indicated a ratio of 1:1.5.[13] Mostly catastrophes occurred in non-booked elderly multi gravidae from rural areas and those belonging to the poor class. Health, education of the public is suggested, especially of multi para in their third decade of life who have a false sense of security due to their previous uneventful deliveries, they are unaware of the problem they can face. They avoid hospital for antenatal and intranatal care, prefer to remain at home to be delivered by a senior family member or TBA, and are referred to the hospital late in labour when delivery fails to occur.

A concentrated effort for a more integrated maternity health services at grass root level should be made. Training programmes should target traditional birth attendants, community health workers, midwives and nurses so that they can provide prenatal and delivery care, identify high risk cases, make appropriate referral and offer family planning information and services. Monitoring of health care providers especially traditional birth attendants, medical practitioners in private clinic and maternity homes who are not fully trained and equipped to deal with high risk patients. Effective strengthening of referral chain will go a long way in reducing the incidence of this catastrophe.

Due to escalating caesarean section rate presence of prior uterine scare was a major contributing factor. The local incidence of rupture of a scared uterus is very variable. 25.73% in Dow Medical College, Karachi.[7] 58% in Fatima Jinnah Medical College and Sir Ganga Ram Hospital, Lahore.[14] 48% in Sandeman Hospital, Quetta.[8] In a previous study from Peshawar[15] 13% of rupture was reported in a previously scared uterus.

Because of the attitudes and traditional beliefs of illiterate and lower social class, caesarean section is regarded as a reproduc-

tive failure, which militates against antenatal booking and hospital delivery in the subsequent pregnancy. These patients are at a tremendous high risk of uterine rupture when managed at home by birth attendants or at primary health level. Therefore there is an urgent need to educate our masses regarding the health of women with special focus on antenatal booking, referral of high risk cases to tertiary care level and development of emergency care obstetrical services. In antenatal clinics of teaching hospitals the mode and the time of delivery of patients with previous scar must be sorted out, patients selected for elective section must be dealt with at around 38 weeks and cases picked up for trial with scar should have vigilant monitoring during labour by experienced staff capable of dealing with all emergency complication.[14] The incidence of maternal mortality was 5.55%. This can be reduced by delivering high-risk obstetrical cases in tertiary level hospitals. Once rupture has occurred a high index of clinical suspicion, prompt diagnosis, preoperative resuscitation, availability of blood transfusion services and immediate laparotomy will help to bring the mortality rate down.

CONCLUSION

In order to reduce the high incidence of rupture uterus we have to focus on the indication of caesarean section, liberal use of caesarean section for dystocia must be checked, to control the increasing percentage of the scarred obstetric population. We have to educate the public about importance of antenatal care, as women from rural background in particular have little or no knowledge of their needs during pregnancy. Proper utilization of health care services, since the person least likely to use the services are those in real need. Screening of high-risk groups, strengthening referral centers so that they provide prompt management of emergencies. Community based family planning services where infor-mation and care are readily available from midwives.

REFERENCES

1. Esen UI. Spontaneous uterine rupture with recording of the visible fetal heart. Tropical doctor's 1990; 20: 189.
2. Obstetrical haemorrhage. Williams Obstetric 20th edition, Parentice Hall International, Inc., 1997; 32: 771.
3. Nkata M. Rupture of uterus, review of 32 cases in general hospital in Zambia, BMJ 1996; 312: 1204.
4. Golan N, et al. Rupture of the pregnant uterus. Obstet Gynacol 1980; 56: 549.
5. D Kstill. Postpartum haemorrhage and other problems of the third stage. High Risk Pregnancy, management options. Chapter W.B. Saunders Ltd., 1996; 68: 1167.
6. Nagina Fatima. Rupture of uterus at term. JCPSP 8 (3): 137.
7. Subhana Tayyab. Rupture of gravid uterus still an obstetrical problem; a three year clinical analysis. JCPSP 6 (3): 144.
8. Huma Quddusi, Shahnaz Naseer. Uterine rupture: An analysis of 25 cases. Pak J Med Sci October-December 2000; 16 (5): 282.
9. Fedowrkow MD et al. Rupture uterus in pregnancy a Canadian Hospitals experience. CMAJ 1987; 137: 27.
10. Eden RD et al. Rupture of the pregnant uterus, a 53 years review. Obstet Gynecol, 1986; 68: 671.
11. Goren GP. Uterine rupture in rural Nigeria, review of 144 cases. Obstet Gynecol, 1974; 44: 682.
12. Hassan et al. Rupture of the uterus in full term pregnancy. J Pak Med Assoc. 1993; 43: 172.
13. Mohammad Aslam. Rupture of pregnant uterus. Pak J Med Sci. Jan-March 1997; 13 (2): 117.
14. Rukhshan Najmi. Rupture of previously scared uterus: a preventable catastrophe. JCPSP 6 (6): 316.
15. Abasi A. Incidence of rupture uterus at Lady Reading Hospital, Peshawar. JCPSP 1993; 3: 27.