MEDICAL CHANNEL

Original Article

"UTERINE RUPTURE: AN ONGOING TRAGEDY OF MOTHERHOOD"

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ABSTRACT

Objective: To evaluate risk factors, management and pregnancy outcome of patients with uterine rupture at tertiary care hospital, Nawabshah.
Methodology: It was prospective observational study conducted in Obstetric and Gynaecological department of Peoples University of Medical and Health Sciences For Women, Nawabshah From 1st July 2010 to 30th June 2012.All patients diagnosed as case of intrapartum uterine rupture were approached. A pre-designed proforma was used to collect the demographic features, predisposing risk factors, management and fetomaternal outcome. Data was fed to SPSS programme version 16 to analyze results.
Results: Total maternity admission were11732 with 9698 deliveries. A total number of 50 cases of uterine rupture were identified , giving a frequency of 0.5 or1:194 deliveries. There were 30 (60%) cases in scarred and 20(40%) cases in un scarred uteri. Highest incidence was found in age group 21-30 years (54%), in multigravida 25(50%), unbooked (92%), 90% were the referred cases. Scarred uterus (60%) , injudicious use of oxytocics27(54%), grandmultiparity 22(44%) and obstructed labour 16(32%) were found as main predisposing factors. Uterine repair was done in 72% of cases while hysterectomy was performed in 28% cases. Bladder repair was additionally required in 10% of cases. Observed morbidities were as follows: 25(50%) were in a state of shock, 20(40%) had anemia, 15(30%) had puerperal sepsis, 5(10%) had wound infection, 2(10%) in disseminated intravascular coagulation and 2(4%) had vasicovaginal fistula. There were 4(8%) maternal and 47(94%) perinatal deaths due to uterine rupture.
Conclusion: Uterine rupture is yet a common obstetrical emergency in our area and is a major risk for maternal and perinatal morbidity and mortality. Proper antenatal care, early referral of women at risk, awareness for supervised deliveries and careful selection of patient for vaginal delivery and repeat caesarean section in parturients with previous uterine scar especially when labour fail to progress, not only reduce this drastic obstetrical complication but also improve maternal and perinatal mortality.

Key Words: Uterine rupture, scarred uterus. Injudicious use of oxytocics, uterine repair, maternal mortality, perinatal mortality.

INTRODUCTION

Rupture of gravid uterus with its sequelae remains one of the most disastrous complication of pregnancy occurring invariably at or near term.
Uterine rupture is an obstetric catastrophe that is associated with high rates of maternal and perinatal mortality.[1] In India it still accounts for 5-10% of all maternal deaths.[2]This obstetric hazard is also associated with short term maternal morbidities such as vasicovaginal fistula, rectovaginal fistula, bladder rupture, foot drop, pschycologicaql trauma, anemia and in long term because of surgical intervention, the woman may be sterilized which can leads to marital disharmony.
Uterine rupture occurs in 1:200 to1:3000 deliveries depending upon obstetric care and the population dealt with.[3,4] The incidence of uterine rupture has dropped significantly

in developed countries and is most often encountered while attempting vaginal birth after caesarean section.[5] The situation is gloomy in developing countries like Pakistan where the amalgamation of such factors as poverty, ignorance , quackery, the mismanagement of essential medical consumables, illiteracy, traditional practices, high parity, lack of antenatal care, unsupervised delivery, delivery outside of a health institution, cephalopelvic disproportion and the injudicious use of oxytocics contributes to the high incidence rate and ensures that rupture of the gravid uterus remains a major public health concern.[1,6,7]

Besides the unscarred uterine rupture, the developing countries are now having increase incidence of scarred uterine rupture due to rising rate of caesarean section-a new problem to be addressed.[8] Our unit being a part of tertiary care centre receives a high number of patients having a uterine rupture with significant adverse outcome and this has drawn our attention to evaluate the spectrum of problem. This study will also help to identify the changing trends in our area and to plan appropriate guidelines for making the pregnancy and labour to be a safe event.

MATERIAL AND METHODS

A prospective observational study was conducted in the department of Gynaecology and Obstetric of Peoples University of Medical and Health Sciences for Women Nawabshah Shaheed Benazirabad (SBA) from 1st July 2010 to 30th June 2012.Total number of deliveries conducted during period were 9698. All cases of ruptured uterus who were either admitted with or who developed this complication after reaching to hospital were included in the study. Diagnosis were made by history, clinical examination and further confirmed on Laparotomy. Fifty patients with rupture uterus were treated during study period .These cases were analyzed with regard to age, parity, booking status, referral, scared and un-scarred uterus, risk factors and management and fetomaternal outcome. The surgical procedures depended on general condition of patient's parity, and desire for future fertility, site of rupture, severity and extent of rupture. The surgical management comprised one of three methods i.e repair of uterus without tubal ligation, repair with tubal ligation or hysterectomy.

All patients were followed up until their discharge from hospital. Data was collected on predesigned proforma and fed on SPSS programme version 16 and frequency and percentages were calculated.

RESULTS

During study period total maternity admission were 11732, with 9698 deliveries. Fifty cases of uterine rupture were included thus represents the frequency of 0.5% or 1 in 194 deliveries. Sociodemographic characteristic of patients are showed in Table-1. Most of patients 27(54%) patients were in age group 21-30 years. Majority 25(50%) women were multiparous. The booking status of patient indicated that 46(92%) were un-booked as against 4(8%) were booked. Rupture uterus in previously scarred uterus was seen in 30(60%) women while 20(40%) cases were seen in un-scarred uterus.

Out of 50 patients 45 (90%) were referred cases. Majority 18 (40%) were referred by Traditional Birth Attendant,10(22.2%) were referred by Doctors outside the hospital, 9 (20%) patients by Lady Health Visitor and 8(17.8%) patients by Nurse.

Predisposing factors were scarred uterus present in 30(60%) women, injudicious use of oxytocics in 23(46%)women, 22(44%) were grandmultipara and obstructed labour was observed in 16(32%) patients. Out 30 scarred uterus rupture 8(5 women with previous 1 and 3 with previous 2 cesarean section) patients had trial of vaginal delivery with augmentation with syntocinon infusion,4 women had given induction with prostaglandin E2 in spite of scarred uterus and 18 patients with scarred uterus had spontaneous onset of labour but none of these patients except 3 had the trial at well equipped centre as shown in Table-2.

Rupture was complete in 35(70%) and in 15(30%) rupture was incomplete. Bladder was involved in 5(10%) cases. Majority of women arrived in state of shock and require urgent resuscitatory measures followed by surgery.

Repair of uterus without tubal ligation was performed in 24(48%) women, repair with tubal ligation done in 12(24%), Hysterectomy was performed in 14(28%) women while repair of bladder was done in 5(10%) women (Table-3). Almost all patients developed some sort of complications. Observed morbidities were as follows: 25(50%) were in a state of shock, 20(40%) had anemia, 15(30%) had puerperal sepsis, 5(10%) had wound infection, 2(10%) in disseminated intravascular coagulation (DIC) and 2(4%) had

TABLE =1
SOCIODEMOGRAPHIC CHARACTERISTIC OF PATIENTS (N=50)

Characteristic	Number	Percentage
Age in years		
21-30	27	54
31-40	20	40
> 41	3	6
Parity		
Primigravida	03	6
Multigravida	25	50
Grandmultipara	22	44
Booking Status		
Booked	46	92
Un-Booked	4	8

TABLE # 2
RISK FACTORS (N= 50)

Risk factor	Numbers	Percentage
Scarred Uterus	30	60
a. Scarred uterus with spontaneous labour.	18	36
b. Scarred uterus with augmentation with syntocinon.	8	16
c. Scarred uterus with induction with prostaglandin E2.	4	8
Grand Multiparity	22	44
Injudicious use of oxytocin in unscarred uterus	19	38
Obstructed labour	16	32
Prostaglandin administration in Un-scarred uterus.	6	12
Transverse lie	2	4

Note : Majority of patients had a combination of risk factors

TABLE # 3
SURGICAL MANAGEMENT (N=50)

Surgical Procedure	Number	Percentage
Uterus repair	19	38
Uterus Repair + Bilateral tubal ligation	12	24
Uterus Repair + Bladder Repair	5	10
Hysterectomy	14	28

TABLE # 4
MATERNAL & PRINATAL OUTCOME (N=50)

Out Come	Number	Percentage
Maternal Morbidity		
Shock	25	50
Anemia	20	40
Puerperal sepsis	15	30
Wound Infection	5	10
DIC	2	4
Vesicovaginal fistula	2	4
Maternal Mortality	**4**	**8**
Perinatal out come		
Still Births	46	94
Early neonatal Death	1	2
Alive	3	6
Perinatal Mortality	**48**	**96**

NOTE: Many patients had more than one complication.

vasicoveginal fistula. Many patients had more than one complication.

Four (8%) maternal deaths occurred due to rupture uterus. Out of these 4 maternal deaths 2 were due to irreversible shock, 1 had DIC and 1 died due to sepsis.

Regarding fetal outcome 46(92%) babies were still born and 4(8%) babies delivered alive, however 1(2%) baby died in early neonatal period, giving the overall perinatal mortality about 94% (Table-4).

DISCUSSION

In our study the frequency of uterine rupture was found as 1:194(0.5%) higher than reported by Sahu Latika(1:346)[8],Rabia Khursheed(1:467)[9],Nirmala Duhan(1:705).[10]The incidence was low as compared to 1:64 by Qudsia Qazi, [11] 1:92 by Diab AE [12] and 1:120 by Dattijo LM. [13] However our results do correlate with PC lbekwe(1:188),[14] Zeteroglu S(0.4%),[15] as well as with other Pakistani studies such as 0.7% by Naushaba Rizwan[16] and 0.55% by Malik HS [17] notifying that uterus rupture is yet a persistent obstetrical emergency in the developing countries.

The age group largely affected by this obstetric catastrophic in this study were patients in their reproductive peak 21-30 years(54%). This was similar to the study done by Qudsia Qazi, Naushaba Rizwan and Malik HS [11,16,17] in which majority of women belonged to age group 26-30 years. This study however differs from that of Ezechi et al, who noted high incidence amongst the age group 30-40 years and lowest amongst the patients in 25-29 years.[1] Majority of ruptured occurred in parity group 2-4(multigravida).This can be related to the fact that most of them had a scarred uterus. Similar results was found in the studies done by and Naushaba Rizwan, Malik HS [16,17].In contrast the study done in Ethopia in which 95% of patients were multigravida[6] Grandmultiparity was seen in 22(44%) women as also identified as high risk factor in other studies.[1,11,13] The significant risks of grand multiparity can only be avoided by vigilant intrapartum care and offering postpartum contraception. The fact that 92% of patients in this study were unbooked is the reflection of what is obtained in most developing countries.[6,10,12,16]

Out of 50 patients 45(90%) were referred cases, 18(40%) patients were supervised during labour by Traditional Birth Attendant, 10(22.2%) by Doctors ,9 (20%) by Lady Health Visitor and 8(17.8%) by Nurse .They failed to recognize abnormal labour and making early referral. This emphasizes the need of health monitoring system, refresher courses for medical staff including doctors with utilization of antenatal risk scoring index and implementation of partograph as detective tool for deviation of labour from norm.

The rupture of unscarred uterus had been well documented as common in developing countries.[9,12,13,18,19]This study however identified rupture to be more in patients with previously scarred uterus as has been noted in other studies.[5,10,14,17] This can be attributed to increasing caesarean section rate in the country, aversion for a repeat caesarean section by most women in Pakistan and the tendency to seek unskilled intervention in event of another pregnancy, falsely assuming that the reason for the initial caesarean section was that they presented to health facility. Such risk can be minimized by reducing the rate of caesarean and more focused counseling of patients with involvement of their family members about the future prospect of delivery .These patients need to be reviewed by senior obstetrician to share balanced information about the safety, risk and probability of success. Vaginal delivery should always be attempted on standard guidelines with a smooth switch over to immediate caesarean section when alarming events noted.

Injudicious use of oxytocics was also noted to be contributory to rupture of gravid uterus in 27(54%) women(Out of 27 patients who received syntocinon particularly to manage the prolonged labour, 8 had it in the presence of scar ,4 had infusion after the insertion of prostaglandin E2).This etiological base was also brought into focus by various studies.[1,11,13,16] Most unbooked patients presented at maternities run by unskilled personnel with little or no knowledge of basic obstetric care and also at private clinics that use oxytocics on patients with previous caesarean section scar without adequate monitoring of these patients in labour. The use of oxytocin in the patients suggest a defect in knowledge and practices associated with this potentially dangerous drug among the workers and the health centers. In most of cases referred, decision was taken rather too late to salvage the fetuses. All health personnel including the Traditional Birth Attendant must be educated regarding the proper use of oxytocin to avoid its hazardous consequences over the fetomaternal health. Over the counter sale of oxytocics agents should be prohibited system. The prolong obstructed labour was the cause of ruptured uterus in 16(32%) of cases. This observation was closer to the studies done at India.[5, 10] where 27% of uterine rupture cases were due to obstructed labour but in contrast to the study in Ethopia and Nigeria where most 88% of uterine rupture were due to obstructed labour.[6,18]

The decision to perform uterine repair or hysterectomy in cases of uterine repair is influenced by parity, number of living children, extent of uterine rupture, condition of the tissues and the general condition of patients. Repair of uterine rupture is a logical approach and should be performed in women with scar rupture and in those with a linear tear. Most patients 48% had repair without tubal ligation, 24% had repair with tubal ligation and 28% had hysterectomy. This study recorded significantly high rate of repair with or without sterilization. The high number of those that had repair may also be a pointer to the fair number of women in the early part of their reproductive career. Ruptured uterus have grave sociocultural implication, especially in our society where these functions are considered the very essence of womanhood. This is comparebale with study done by Nirmala from India, [10] Dattijo LM from Nigeria,[13] Malik HS, [17]from Pakistan but in contrast to the study done by Amanael Gessessew [6] and Qudsia Qazi[11] where majority 60-70% had hysterectomy.Bladder injury in 5 wonen (10%) is much lower than the 18.5% reported by Gessessew from Eithopia.[6]

The most common complication in our study were shock(50%), anemia(40%) and perpural sepsis(30%),which were corroborated by similar finding in Eithopia,Sagamu and Ibadan.[6,20,21]

We also found a high incidence of maternal deaths related to uterine rupture(8%) then the earlier reports such as 1.7% by Diabe, [12] 2% by Naushaba [16] and 3.3% by Rashmi [5] on the otherhand our results are comparable with those of Amanael Gessessew(11%), [6] Nirmila Duhan(11.9%), [10] Qudsia Qazi(7.8%),[11] Malik HS(7.7%),[17] In this study perinatal mortality was even very high about 96% which was similar to the findings in most of series [6,10,11,12,19] but is higher than the rate of 7.4% in Singapore [7] and 17.6% in Turkey. [22]

CONCLUSION

It is obvious that rupture of gravid uterus still constitutes a major obstetric complication in our setup. There is urgent need for acceptable, accessible, affordable and sustainable quality obstetric care in order to crub the menace of rupture uterus. Health education is also required to create and increase awareness regarding complications associated with grandmultiparity, unbooked pregnancies, deliveries outside the hospital, associated risk after caesarean section if pregnancy and labour is unsupervised in the next confinement and to improve the acceptance and utilization

of hospitals there by reducing the proportion of deliveries that occur outside the hospital. The activities of Traditional birth attendant should be streamlined and regularly monitored with a view to improve their practices and pattern of patient referral. In addition the regulation of injudicious use of oxytocics by unskilled personnel is advocated with increased vigilance among skilled personnel during use of oxytocics in patients with previous caesarean scar

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