



# UTERINE RUPTURE; FOUR YEARS EXPERIENCE ON SEVENTY FOUR CASES IN SECONDARY CARE HOSPITAL

Dr. Shazia Saeed<sup>1</sup>, Dr. Ashfaq Ahmad<sup>2</sup>, Dr. Nasreen Akhtar<sup>3</sup>

1. Assistant Prof. Gynae & Obs,  
Medical College Mirpur Azad  
Kashmir,
2. Assistant Prof. Urology,  
Medical College Mirpur Azad  
Kashmir,
3. Assistant Prof. Gynae & Obs,  
Medical College Mirpur Azad  
Kashmir,

**Correspondence Address:**

Dr. Shazia Saeed,  
Assistant Professor,  
Department of Gynae/Obs,  
Medical College/Head Quarter  
Teaching Hospital,  
Mirpur Azad Kashmir  
raja0508@yahoo.com  
rashidmalik\_62@hotmail.com

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## INTRODUCTION

Uterine rupture due to poorly manage labor is associated with increased risk of maternal and perinatal morbidity and mortality.<sup>1,2</sup> It is associated with immediate complication like severe anemia shock and ruptured bladder<sup>3,4</sup> and long term complication like VVF and inability to deliver more children.<sup>5</sup>

In Asia Africa its prevalence is more as compare to developed countries and responsible for high maternal mortality and morbidity.<sup>6,7</sup> In developed countries previous scar with trial of labour while in developing countries unscarred rupture uterus secondary to excessive use of syntocinon in grand multipara, obstructed labour and uterine instrumentation by untrained birth attendant were main causes.<sup>8</sup>

Home deliveries are frequent due to low socioeconomic class, inadequate access to medical facility and poverty.<sup>9</sup> Neglected labour with poor maternal outcome are consequences

**ABSTRACT... Objective:** To determine frequency and to identify social, demographic and obstetrical causes of rupture uterus in Bagh Azad Jamu Kashmir and to define appropriate recommendations for its prevention and effective management. **Study Design:** A descriptive case series study. **Setting:** DHQ Hospital Bagh at AJK. **Period:** 1<sup>st</sup> September 2008 to 30<sup>th</sup> September 2012 was done. **Methodology:** Data was entered on pre-design proforma included age, parity, booked or un-booked cases, time delay to reach hospital and etiological factors. **Results:** Incidence of rupture uterus is 1:185 deliveries. Mostly occurred in grand multipara and injudicious use of syntocinon and neglected labor are most common cause. **Conclusions:** Skilled birth attendant, free transportation and avoidance of undue use of syntocinon in peripheral health center are key element for better maternal outcome.

**Key words:** Rupture uterus, peripartum hysterectomy, antenatal care.

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of home deliveries. Because of worse outcome of this preventable obstetrical complication we should review our health policies periodically for its prevention.

## MATERIAL AND METHODS

Four year prospective study of all cases of ruptured where author have a chance to work with NGO as gynecologist in post-earth quake areas. DHQ Hospital Bagh catered about 4 million populations and this secondary care hospital was the only government hospital where every kind of surgery for obstetrical emergency was performed. A questionnaire was developed to collect data. Relevant data included age, parity, booking status, point of referral (some center have free transportation by NGOS while other have no such facility), etiological factor (injudicious use of syntocinon, obstructed labour, trial of labour in previous scar, difficult instrumental delivery and delay to reach in hospital due to poor socioeconomic status) were recorded.

**RESULTS**

This study was carried out in the Department of Gynaecology and Obstetrics from September, 2008 to September 2012. A total number of deliveries were 12250 out of them 74 cases were recorded with ruptured uterus, giving a ratio of 1:185 deliveries. Thirty three patients (45%) were in the age group 35-39 years. Twenty four patients (32%) were in age group 30-34 years, eight patients (11%) in age group 25-29, and six patients (8%) between 20-24 years. While 1 case (1%) <20 year and 2 cases (3%) >40 year were recorded. Most of the patients 35 (47.30%) had >p7, there were thirty two (43.25%) patients had para 5-7, six (8.10%) para 2-4 and 1 patient (1.35%) para 1. Table III shows the arrival of hospital of patients. 44 patients (59%) were delay to reach the hospital more than 6 hours and 30 patients (41%) were delay to reach the hospital less than 6 hours.

Age in yrs	No. of Patients	Antinatal visit >4 times
< 20	1 (1%)	-
20 – 24	6 (8%)	2
25 – 29	8 (11%)	1
30 – 34	24 (32%)	2
35 – 39	33 (45%)	1
>40	2 (3%)	-

**Table-I. Age distribution of patients**

Parity	No. of Patients	Percentage
P1	1	1.35
P2-4	6	8.10
P5-7	32	43.25
>p7	35	47.30

**Table-II. Parity of patients**

Hospital arrival time	No. of patients	Percentage
Delay to reach in hospital >6 hours	44	59.0
Delay to reach <6 hours	30	41.0

**Table-III. Frequency of patients to reach the hospital**

**DISCUSSION**

For a total of 12250 deliveries, 74 cases of uterine rupture making a incidence of 1:185 (6/10000 deliveries) which is comparable to other big

cities of Pakistan like a study conducted in Lady Willingdon Lahore<sup>10</sup> its incidence is 7.6/1000 deliveries, and in a study from JPC Karachi<sup>11</sup> its incidence is 5-5/1000 deliveries. In other local study conducted in Bannu its incidence was 1;64<sup>12</sup> which is much higher than our study. In Africa 1;96 deliveries was noted<sup>13</sup> while in other study in Africa it was 1;258.<sup>14</sup> A meta analysis of data from industrialized countries suggest that modern rate of unscarred uterine rupture during pregnancy is 0.013% (1 in 7440).<sup>15</sup>

Gareil et al in a study from Ireland showed that the rate of unscarred uterine rupture was 1 per 30,764 deliveries. (0.0033%).<sup>16</sup> This huge difference is not surprising as it can be explained by increase rate of home deliveries in Pakistan (>85%). Neglected labour, inadequate access to medical care and several shortcomings in health education system are other contributing factors.

The frequency of uterine rupture increases with maternal age .In our study 77% patients are between 30 to 40 years and among 77% about 44.5 between 35-40 years. In a study conducted by Fofie 63.4% with uterine rupture was between 31-45. Similar results were published by Ship et al who had 1.4% of uterine rupture in women older than 30 years as against to 0.5% in younger women.<sup>18</sup> Grand multiparty has long been associated with ruptured uterus. In our study 90.5% cases were grand multipara with parity >5. This rate is high as compare to all other studies like studies conducted by Fofie 41% were grand multipara<sup>17</sup> and Schrinky and Benson found 32% case more than para 4.<sup>19</sup> This can be explained by far from areas of Kashmir having rigid believe against family planning program for birth control, and social demand of son increases birth rate. Poverty aggravates this problem. We can improve this aspect by regular health education program through print and electronic media. If we are able to reduce family size we can limit this complication.

Rupture in unscarred uterus has been well documented as common in developing countries.<sup>20,21</sup> Other studies are strengthen by our study where only 6 patients have scared uterus.

People in rural areas have concept that after L.S.C.S ladies were not able to bring water from spring and not able to look after their animal so they were ready to sacrifice babies to avoid scar. Again by regular antenatal care and counseling regarding safety of L.S.C.S. can improve outcome.

Only 6 cases in our study having antenatal visit >4 times while 12 cases visited to local center and evaluated by L.H.V in antenatal period while 55 cases never visited to health facility previously as compare to study where 85.4% had at least four antenatal visit as recommended by W.H.O. but still incidence is 1;124 cases.<sup>17</sup> Another study in which 65% patients were unbooked.<sup>14</sup> A fact explained by my study about poor quality care obtained in developing countries as compare to developed countries.<sup>22-26</sup> At least 4 antenatal visits by L.H.W. should be encourage at home and must identified risk factor in these ladies. Delay in accessing health care is the most important factor in worsening maternal mortality and morbidity. Lack of emergency transport and difficult geographical distribution is particular problem in AJK as people carry patients on home made carrier on shoulder and have to travel several miles without transport. In our study delay of more than 6 hrs in 44 cases and all maternal complication were more in this group. While in 30 cases delay was less than 3 hrs having better outcome with less morbidity. Patients came from center where free transportation was available reach within 3 hrs with less morbidity. Free delivery package was introduce by NGOS in earth quack (2005) affected areas, attempts at addressing the issues of financial barrier like free transportation, availability of gynecologist in 24 hrs 7 days in DHQ Bagh training of LHV at all referral center with regular program on media were quite helpful but because of high cost of transportation this free transportation was not sustainable by government after September 2010, 18 cases who presented after 2010 had worse condition at presentation and delay of more than 7 hrs to reach in hospital. Similar project by Government of Ghana but due to un-sustain ability really reduce effectiveness of this intervention.<sup>17</sup>

Injudious use of syntocinon is the major contributing factor of rupture uterus. This etiology was also noticed in other studies<sup>22,27,28</sup> the reason being explained that most un-booked patient presented at center run by unskilled personal with little or no knowledge of use and monitoring of syntocinon.<sup>29</sup> In our study only 1 case have history of use of syntocinon in hospital all other cases received drug at home or in private clinic by unskilled people. Improving referral and transport system, health education, assigned trained health workers, avoidance of injudious use of syntocinon may help to reduce these complication. Focus and free antenatal care are the factors which can prevent these catastrophic complications.

## CONCLUSION

Government policies should be reviewed regularly in order to improve antenatal care. Health Education, arrangement of donors for free transportation at both governments and community level and monitoring of activities by TBA may help to reduce incident of ruptured uterus due to preventable causes.

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### AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Dr. Shazia Saeed	Principal research author	
2	Dr. Ashfaq Ahmad	Co-author	
3	Dr. Nasreen Akhtar	Co-author	