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Original Article

Rupture uterus during pregnancy: a five year study in tertiary care level in bastar chattisgarh

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ABSTRACT

Abstract: AIM: To study the Uterine Rupture during pregnancy, its incidence, risk factors, maternal and fetal outcome in tertiary level care Bastar, Chattisgarh {Late Baliram kashyp Memorial Medical College, Jagdalpur, Bastar, Chattisgarh} Objectives: The primary objective of this study is to study Rupture Uterus during pregnancy its incidence, risk factors, maternal and fetal outcome in tertiary level care Bastar (Chhattisgarh). Materials and Methods: This is a hospital based ,retrospective, reproductive-age mortality study (RAMOS) of patients of Bastar region, Chattisgarh, that were admitted and managed in Obstetrics and Gynecology Department Govt. Medical College, Jagdalpur, Bastar, Chattisgarh, between July 2007 and June 2012. There were total 152 (n=152) cases. Out of 152 (n=152), 140 (n=140) were of tribal women and remaining 12 (n=12) were Non-Tribal women. Results: Amongst total 152 (n=152) cases, Out of total 152 (n=152) cases, 140 (n=140) were of Tribal women and remaining (n=12) were of Non-Tribal women. There were 18 (27.36%) cases were due to Rupture Uterus. All 18 (27.36%) Rupture Uterus cases were Tribal women from remote areas. There was no case of Rupture Uterus among Non-Tribal women. The total number of uterine rupture cases was 18 out of 32824 deliveries. The incidence of uterine rupture was 1 in 1823 deliveries. [0.54 Per 1000 deliveries.]. The incidence of Rupture in the year 2007 was 1 in 906 deliveries. [1.10 Per 1000 deliveries], in the year 2008 was 1 in 5537 deliveries [0.18 Per 1000 deliveries], in the year 2009 was 1 in 906 deliveries [0.46 Per 1000 deliveries], in the year 2010 was 1 in 1157 deliveries [0.86 Per 1000 deliveries], in the year 2011 was 1 in 1451 deliveries [0.68 Per 1000 deliveries], in the year 2012 was 0 in 3933 deliveries [0.00 Per 1000 deliveries]. It shows that there has been considerable decline in Maternal mortality due to Rupture Uterus. In this study it is found that no (no) cases of maternal mortality due to Rupture Uterus has been recorded after December 2011. Majority cases belonged to 30 – 32 age group. Maximum 05 (27.77%) cases belonged to 30 – 32 age group, 04 (22.22%) cases between age group of 25 – 26, 03 (16.66%) cases were of 20 – 22, 03 (16.66%) cases were of 35 age, 02 (11.11%) cases were of 28 - 29 age group, 01 case of 23 years of age. Majority cases were Multigravida. Maximum 08 (44.44%) cases were of Multigravida, 05 (27.77%) cases were of Grandmultigravida, then 4, (22.22%) cases were of Primigravida, and 1 of Greatgrandmultigravida (9th Gravida). 02 (11.11%) cases were educated up to 04 standard rest 16 (88.88%) were illiterate. Their monthly income was between Rs.1200 to Rs.2500 per month. 10 (55.55%) cases were Labor and 8 (44.44%) were Farmers. All cases were tribal women of low socioeconomic status. All 18 (100%) were handled before admission into tertiary level care. 07 (38.88%) cases were due to Obstructed Labor. 11 (61.11%) cases were due to Uterine trauma caused by uterine manipulation by untrained dais. All cases were unbooked. No Antenatal checkup was carried in all 18 (100%) cases. All 18 (100%) cases were anemic. 13 cases (72.22%) were admitted in shock and rest 05 (27.77%) cases were admitted in very poor General Condition. 10 (55.55%) cases were referred from other health facilities and 8 cases (44.44%) were admitted directly at tertiary care level. In 02 (11.11%) died within 05minutes to 20 minutes of admission, 01 (5.55%) died within 50 minutes of admission, 02

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(11.11%) died within 1.15 to 2.15 Hours, 02 (11.11%) cases died within 3Hours of admission, 04(22.22%) cases died within 4.5 to 13 Hours of admission, 07 (38.88%) Cases died within 16 to 81.20 Hours. In 09 (49.99%) cases Total Hysterectomy was done. Maternal Mortality was 100% and Fetal Mortality was 100%. Uterine rupture was significantly associated with low socio-economic status, lack of antenatal care, Multigravidity, Maternal age group 30-32 years, 07 (38.88%) cases were due to Obstructed Labor. 11 (61.11%) cases were due to Uterine trauma caused by uterine manipulation by untrained dais. Uterine trauma caused by uterine manipulation by untrained Traditional Birth Attendants and obstructed labor was major a risk factors. All 18 (100%) cases were of Tribal women of remote areas.

There has been considerable decline in Maternal mortality due to Rupture Uterus. In this study it is found that no case of maternal mortality due to Rupture Uterus has been recorded after December 2011.

1. Introduction

Definition: Uterine rupture during pregnancy is a rare event and frequently results in life-threatening maternal and fetal compromise. It can either occur in women with a native, unscarred uterus or a uterus with a surgical scar from previous surgery. Uterine rupture occurs when a full-thickness disruption of the uterine wall that also involves the overlying visceral peritoneum (uterine serosa) is present. By definition, it is associated with the following:

- Clinically significant uterine bleeding
- Foetal distress
- Protrusion or expulsion of the foetus and/or placenta into the abdominal cavity
- Need for prompt caesarean delivery
- Uterine repair or hysterectomy [1]

In "Baster" Chhattisgarh majority of the population is of tribal's. According to census of India 2011basic data sheet of district Bastar Division including North Bastar Kanker, Bastar, Narayanpur, Dakshin Bastar Dantewada, Bijapur Districts total Population is 6181656. Total Schedule Tribe population is 4155480 {67.22%} and Total schedule cast population is 208332{3.37%}. [2]

Uterine rupture during pregnancy is a rare occurrence that frequently results in high incidence of maternal and fetal morbidity and mortality. The leading cause of uterine rupture was found to be neglected and obstructed labor due to mismanagement by local untrained birth attendants. Timely recognition and referral to higher centers can reduce the maternal and fetal morbidity and mortality due to uterine rupture. [3]

2. Material and Method

This is a hospital based , retrospective, reproductive-age mortality study (RAMOS) of tribal women of Bastar region, Chattisgarh, that were admitted and managed in Obstetrics and gynecology Department Govt. Medical College, Jagdalpur, Bastar, Chattisgarh, between July 2007 and June 2012. There were total 152 (n=152) cases of Maternal Mortality were studied. Out of these 152 (n=152) cases total Tribal patients were (n=140) and 12 (n=12). with a non-tribal background, admitted and managed in indoor wards between July 2007 and December 2012, and the relevant data was collected from the records of the Department of Obstritics & Gynecology and Medical Records Department (MRD), Government Medical Collage and the associated Maharani Hospital, Jagdalpur (Bastar), Chhattisgarh. All 140 Tribal patient (n=140) have been included in this study and 12 (n=12) with non-tribal background have been excluded.

3. Objectives

The primary objective of this study is to study Rupture Uterus during pregnancy its incidence, risk factors, maternal and fetal outcome among tribal women of Bastar (Chhattisgarh) at tertiary level of care.

This is a hospital based retrospective, reproductive-age mortality study (RAMOS) of tribal women of Bastar region, Chattisgarh, that were admitted and managed in Obstetrics and Gynecology Department Govt. Medical College, Jagdalpur, Bastar, Chattisgarh, between July 2007 and June 2012. There were total 152 (n=152) cases of Maternal Mortality were studied. Out of these 152 (n=152) cases total Tribal patients were (n=140) and 12 (n=12). with a non-tribal background, admitted and managed in indoor wards between July 2007 and June 2012, and the relevant data was collected from the records of the Department of Obstritics & Gynecology and Medical Records Department (MRD), Government Medical Collage and the associated Maharani Hospital, Jagdalpur (Bastar), Chhattisgarh.

3.1 Study Population: The sample consisted of total 152 (n=152) patients who attended tertiary care hospital for medical care between July 2007 and June 2012. Out of 152 (n=152) patients 140 (n=140) were tribal patients and (n=12) with a non-tribal background.

3.2 Sampling: This is a hospital based retrospective, reproductive-age mortality study (RAMOS) of tribal women of Bastar region, Chattisgarh, that were admitted and managed in Obstetrics and Gynecology Department Govt. Medical College, Jagdalpur, Bastar, Chattisgarh, between July 2007 and June 2012. There were total 152 (n=152) cases of Maternal Mortality were studied. Out of these 152 (n=152) cases total Tribal patients were (n=140) and 12 (n=12). with a non-tribal background, admitted and managed in indoor wards between July 2007 and June 2012, and the relevant data was collected from the records of the Department of Obstetrics & Gynecology Government Medical Collage and the associated Maharani Hospital, Jagdalpur (Bastar), Chhattisgarh.

3.3 Data collection: There were total 152 (n=152) cases of Maternal Mortality were studied. Out of these 152 (n=152) cases total Tribal patients were (n=140) and 12 (n=12) with a non-tribal background, admitted and managed in indoor wards between July 2007 and June 2012, and the relevant data was collected from the records of the Department of Obstetrics & Gynecology and Medical Records Department (MRD), Government Medical Collage and the associated Maharani Hospital, Jagdalpur (Bastar), Chhattisgarh Data Analysis: Results were analyzed by using percentage and ratio.

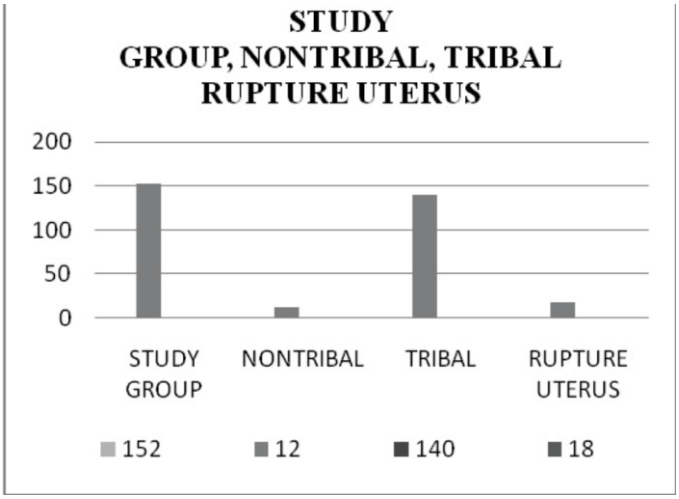
4. Results:

Amongst total 152 (n=152) cases, Out of total 152 (n=152) cases, 140 (n=140) were of Tribal women and remaining (n=12) were of Non-Tribal women. [FIGURE 1]

There were 18 (27.36%) cases were due to Rupture Uterus. All 18 (27.36%) Rupture Uterus cases were Tribal women from remote areas. There was no case of Rupture Uterus among Non-Tribal women. [FIGURE 1]

Rupture Uterus During Pregnency: A Five Year Study In Tertiary Care Level In Bastar Chattisgarh.

Figure , Table, Chart And Diagrame



The total number of uterine rupture cases was 18 out of 32824 deliveries. The incidence of uterine rupture was 1 in 1823 deliveries. [0.54 Per 1000 deliveries.]. The incidence of Rupture in the year 2007 was 1 in 906 deliveries. [1.10 Per 1000 deliveries], in the year 2008 was 1 in 5537 deliveries [0.18 Per 1000 deliveries], in the year 2009 was 1 in 906 deliveries [0.46 Per 1000 deliveries], in the year 2010 was 1 in 1157 deliveries [0.86 Per 1000 deliveries], in the year 2011 was 1 in 1451 deliveries [0.68 Per 1000 deliveries], in the year 2012 was 0 in 3933 deliveries [0.00 Per 1000 deliveries]. [CHART 1]

Majority cases belonged to 30 – 32 age group. Maximum 05 (27.77%) cases belonged to 30 – 32 age group, 04 (22.22%) cases between age group of 25 – 26, 03 (16.66%) cases were of 20 – 22, 03 (16.66%) cases were of 35 age, 02 (11.11%) cases were of 28 - 29 age group, 01 case of 23 years of age. [TABLE 1]

Age & Gravidity Of Patients Of Rupture Uterus Table 1

				Age		No(%)	
GRAVIDITY	20-22	23-24	25-26	28-29	30-32	35	1
9			1				
8							1
7							
6				1			1
5					2	2	4
4				1			1
3					1	1	2
2	1		2		2		5
1	2	1	1				4
Total	3	1	4	2	5	3	18

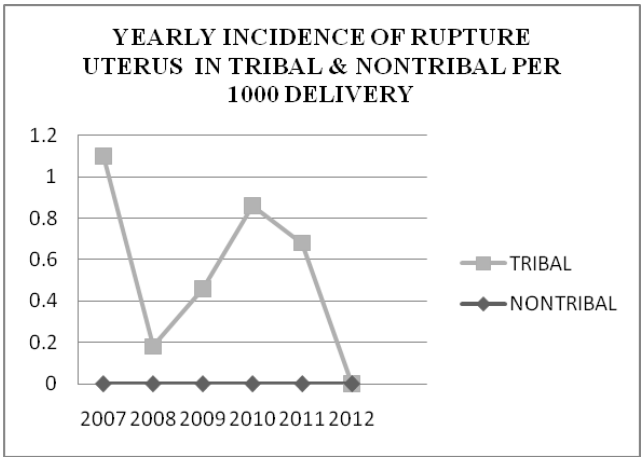
Majority cases were Multigravida. Maximum 08 (44.44%) cases were of Multigravida, 05 (27.77%) cases were of Grandmultigravida, then 4, (22.22%) cases were of Primigravida, and 1 of Greatgrandmultigravida (9th Gravida). [TABLE 1]

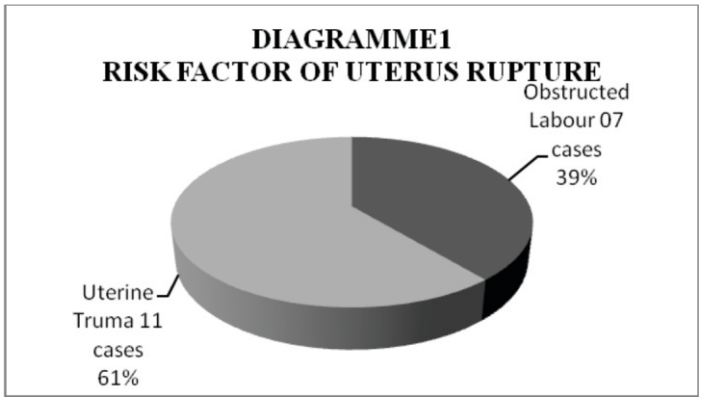
02 (11.11%) cases were educated up to 04 standard rest 16 (88.88%) were illiterate. Their monthly income was between Rs.1200 to Rs.2500 per month. 10 (55.55%) cases were Labor and 8 (44.44%) were Farmers. All cases were tribal women of low socioeconomic status.

All 18 (100%) were handled before admission into tertiary level care. 07 (38.88%) cases were due to Obstructed Labor. 11 (61.11%) cases were due to uterine trauma caused by uterine manipulation by untrained dais. Uterine trauma caused by uterine manipulation by untrained Traditional Birth Attendants and obstructed labor was major a risk factors. [DIAGRAMME 1]

All cases were unbooked. No Antenatal checkup was carried in all 18 (100%) cases.

CHART 1





All 18 (100%) cases were anemic. Human hookworm infection is a soil-transmitted helminth infection caused by the nematode parasites Necator americanus and Ancylostoma duodenale. It is a leading cause of anaemia and protein malnutrition, afflicting an estimated 740 million people in the developing nations of the tropics. The largest numbers of cases occur in impoverished rural areas of sub-Saharan Africa, Latin America, South-East Asia and China. N. americanus is the most common hookworm worldwide, while A. duodenale is more geographically restricted. [4]

13 cases (72.22%) were admitted in shock and rest 05 (27.77%) cases were admitted in very poor General condition.

10 (55.55%) cases were referred from other health facilities and 8 cases (44.44%) were admitted directly at tertiary care level.

In 02 (11.11%) died within 05minutes to 20 minutes of admission, 01 (5.55%) died within 50 minutes of admission, 02 (11.11%) died within 1.15 to 2.15 Hours, 02 (11.11%) cases died within 3Hours of admission, 04(22.22%) cases died within 4.5 to 13 Hours of admission, 07 (38.88%) Cases died within 16 to 81.20 Hours.

In 09 (49.99%) cases Total Hysterectomy was done.

Maternal Mortality was 100% and Fetal Mortality was 100%.

Uterine rupture was significantly associated with low socio-economic status, lack of antenatal care, Multigravidity, Maternal age group 30-32 years, Uterine trauma caused by uterine manipulation by untrained Traditional Birth Attendants and obstructed labor was a major risk factors. All 18 (100%) cases were of Tribal women of remote areas. [TABLE 1]

5. Discussions

Rupture of the gravid uterus is a catastrophic event with a significant effect on the reproductive function of the woman. It is a major contributor to the maternal and fetal morbidity and mortality. It is commonly associated with environments where the obstetric care is poorly advanced and delivery is either unsupervised or conducted by unskilled birth attendants. [5]

5.2 Amongst 140 (n=140) cases of Maternal Mortality of tribal women 18 (12.85%) cases were due to Rupture Uterus.

5.3 In "Baster" Chhattisgarh majority of the population is of tribal's. "According to census of India 2011basic data sheet of district Bastar Division including North Bastar Kanker, Bastar, Narayanpur, Dakshin Bastar Dantewada, Bijapur Districts total Population is 6181656. Total Schedule Tribe population is 4155480{67.22%} and Total schedule cast population is 208332{3.37%}. [2]

5.4 The age at which the girl was given in marriage depended on social values. Among the tribal's, virginity was not very much valued. Many of the tribal societies were lax towards pre-marital sex relations which were considered as training in the art of love and sex life and often ended in marriage. Girls in tribal societies were given in marriage generally after puberty. According to 1971 census at the national level, the age at marriage for tribal women was higher (16.39) than that of the rural women in general (15.39). [6]

5.5 The total number of uterine rupture cases was 18 out of 32824 deliveries. The incidence of uterine rupture was 1 in 1823 deliveries. [0.54 Per 1000 deliveries.]. The incidence of Rupture in the year 2007 was 1 in 906 deliveries. [1.10 Per 1000 deliveries], in the year 2008 was 1 in 5537 deliveries [0.18 Per 1000 deliveries], in the year 2009 was 1 in 906 deliveries [0.46 Per 1000 deliveries], in the year 2010 was 1 in 1157 deliveries [0.86 Per 1000 deliveries], in the year 2011 was 1 in 1451 deliveries [0.68 Per 1000 deliveries], in the year 2012 was 0 in 3933 deliveries [0.00 Per 1000 deliveries]. [CHART 2]

5.6 Majority of the patients belonged to age group 20-35 years and 100% were tribal women from remote areas. Majority cases were Multigravida. [TABLE 1]

5.7 02 (11.11%) cases were educated up to 04 standard rest 16 (88.88%) were illiterate. Their monthly income was between Rs.2500 to Rs.1200 per month. 10 (55.55%) cases were Labor and 8 (44.44%) were Farmers. All cases were tribal women of low socioeconomic status.

5.8 17 cases (94.44%) were handled before admission into tertiary level care. 07 (38.88%) cases were due to Obstructed Labor. 11 (61.11%) cases were due to Uterine trauma caused by uterine manipulation by untrained dais.

5.9 One case (5.55%) was Grandmultigravida and max 05 (27.77%) were Primigravida. [TABLE 1]

5.10 No Antenatal checkup was carried in all 18 (100%) cases.

5.11 All 18 (100%) cases were anemic. Human hookworm infection is a soil-transmitted helminth infection caused by the nematode parasites Necator americanus and Ancylostoma duodenale. It is a leading cause of anaemia and protein malnutrition, afflicting an estimated 740 million people in the developing nations of the tropics. The largest numbers of cases occur in impoverished rural areas of sub-Saharan Africa, Latin America, South-East Asia and China. N. americanus is the most common hookworm worldwide, while A. duodenale is more geographically restricted. [7]

5.12 13 cases (72.22%) were admitted in shock and rest 05 (27.77%) cases were admitted in very poor General condition.

5.13 10 cases (55.55%) were referred from other health facilities and 8 cases (44.44%) were admitted directly at tertiary care level.

5.14 Maternal Mortality was 100% and Fetal Mortality was 100%.

5.15 A total of 18 cases of rupture uterus managed wef. July 2007 to June 2012in the department of Obstetrics and Gynaecology at the Late B.R.K. Memorial Medical College, Jagdalpur, Chattisgarh, were reviewed. Of these 100% cases reported to the hospital with rupture uterus. In all 18(100%) cases there was no previous history of caesarean delivery. All cases were unscarred uterus presenting with rupture; the most common cause of rupture in all cases was obstructed labour or obstetrical manipulation in unscarred uterus by untrained personal. All were anaemic and 13 cases (72.22%) were admitted in shock.

5.16 Uterine rupture during pregnancy is a rare occurrence that frequently results in high incidence of maternal and fetal morbidity and mortality. The leading cause of uterine rupture was found to be neglected and obstructed labor due to mismanagement by local untrained birth attendants. Timely recognition and referral to higher centers can reduce the maternal and fetal morbidity and mortality due to uterine rupture. [3]

5.17 The condition is significantly associated lack of antenatal care and attending obstetrical cases by the untrained dais in difficult to reach areas and low socio-economic status of the patients.

5.18 Now Ruptured uterus is not a common obstetric hazard in tertiary level care and its incidence appears to be on the decrease. Maternal Mortality due to Rupture Uterus has not been recorded after December 2011 in tertiary care level Bastar Chhattisgarh. [CHART 2]

6. CONCLUSIONS:

The leading cause of ruptured uterus was found to be mismanagement by traditional birth attendants. We can reduce maternal mortality due to rupture uterus by giving proper training to traditional birth attendants and by mass education through electronic media. [8]

The condition is significantly associated with advanced maternal age, grandmultiparity, lack of antenatal care and the low socio-economic status of the patients. [9]

Less commonly, ruptures may be associated with obstetric trauma from instrumental deliveries or intrauterine manipulations. [10]

The leading cause of uterine rupture was found to be neglected and obstructed labor due to mismanagement by local untrained birth attendants. Timely recognition and referral to higher centers can reduce the maternal and fetal morbidity and mortality due to uterine rupture [3]

Uterine rupture in pregnancy is a rare and often catastrophic complication with a high incidence of fetal and maternal morbidity. [1]

The leading cause of uterine rupture found to be neglected and obstructed labour due to mismanagement by local untrained birth attendants. Timely recognition and referral to higher centres can further reduce the maternal and foetal morbidity and mortality due to uterine rupture.

The condition was significantly associated lack of antenatal care and attending obstetrical cases by the untrained dais in difficult to reach areas and low socio-economic status of the patients. Uterine rupture on unscarred uterus is a relatively rare complication of the pregnancy. However, its incidence remains high in developing countries. Its occurrence is significantly associated with grandmultiparity, lack of antenatal care and low socio-economic status of the patients. [13]

Now Ruptured uterus is not a common obstetric hazard in tertiary level care and its incidence appears to be on the decrease. [CHART 2] Maternal Mortality due to Rupture Uterus has not been recorded after December 2011 in tertiary care level Bastar Chhattisgarh. [CHART 2], credit goes to NRHM Chhattisgarh, for implementing various health programmes and training programmes for maternal and child health [11] and 108 Sanjivani Express Ambulance service. [12].

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