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Original Articles

RUPTURED UTERUS: FETOMATERNAL OUTCOME AMONG UNBOOKED MOTHERS AND ANTENATAL CARE DEFAULTERS AT THE UNIVERSITY OF PORTHARCOURT TEACHING HOSPITAL.

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ABSTRACT

BACKGROUND: Unbooked emergencies are major reasons for the high maternal and perinatal mortality and morbidity in Nigeria. Rupture of the gravid uterus in women without antenatal care usually present late to hospital as unbooked emergencies with high perinatal deaths and very poor maternal outcome.

AIM: To determine the factors implicated in the poor feto-maternal outcome with ruptured uterus amongst the unbooked mothers at the University of Port Harcourt Teaching Hospital(UPTH).

METHOD: A retrospective analysis of case records of 82 consecutive patients without antenatal care who had ruptured uterus between January 2008 and December 2012.

RESULT: There were 2133 deliveries among unbooked mothers at the University of Port Harcourt Teaching Hospital over this 5-year period. The incidence of ruptured uterus for the period under review was 3.8%. The mean age was 28.1years and the modal parity was 2. Abdominal massage and prolonged obstructed labor were the commonest predisposing factors, occurring in 43.9% and 34.1% of these women respectively. There were 80 perinatal deaths contributing to 12.2% of the perinatal mortality rate. There were 6 maternal deaths from ruptured uterus which was 10.9% of the maternal mortality ratio of 2578.5 per 100,000 live birth during the study period.

CONCLUSION: Perinatal and maternal mortality rates from ruptured uterus were high. The major causes of uterine rupture are abdominal massage and prolonged obstructed labor, which are both preventable. Public enlightenment and condemnation of practices that promote these factors is advocated.

KEYWORDS: ruptured uterus, feto-maternal outcome, unbooked, Port Harcourt.

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INTRODUCTION

Rupture of the uterus is a serious emergency contributing significantly to maternal and perinatal mortality with the unbooked patients most affected.[1,2] In the developed countries where there are well structured obstetric care, uterine rupture is a rare event.[3.]

However, in the developing countries with poor structured antenatal and intrapartum care this is fairly a common emergency because of high parity, increasing incidence of previous scars (caesarean section and myomectomy), cephalopelvic disproportion and obstructed labour, this is fairly a common emergency.[4] In this center the earlier report of the incidence of uterine rupture was 0.39%.[5] The incidence of uterine rupture varies in different parts of the country, in Ilorin is 0.33%[6], 0.4% in Ife[7], 0.5% in Lagos[8], 0.72% Ibadan[9], Enugu 0.53%.[10] However, in developed countries the incidence of uterine rupture is low at 0.4 per 1000 deliveries[11] because of the excellent antenatal care, presence of skilled birth attendance at delivery and government policies in favour of safe motherhood.[12] Findings from National Demographic health survey of 2013 conclude that as high as 36% of pregnant Nigerian

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women do not attend antenatal care, up to 62% have home deliveries and only 35% deliver in the hospitals under supervisions by a skilled birth attendant (20% in public sector and ·15% in the private sector).[12]

Illiteracy, ignorance, inadequate antenatal care and supervision of labour and manipulations such as uterine massage by traditional birth attendants contribute to the high incidence of uterine rupture[13,14]. In addition those that need specialist care are scared by the high cost of medical treatment in our public and private health facilities together with the poor socioeconomic status of our populace.[15] Factors that contribute immensely to the burden of uterine rupture in Nigeria include uterine scars, high parity, prolonged labour, malpresentations and several socioeconomic and cultural factors like poor antenatal care, unsupervised intrapartum care, poor facility and delivery outside conventional facilities.[16] It is however, disheartening that these factors are yet to receive necessary attention by those relevant authorities.

The findings of this study will help to modify practice and reduce the incidence of ruptured uterus and its associated morbidities and mortalities at the University of Port Harcourt Teaching Hospital especially among unbooked mothers by auditing the 82 consecutive cases managed in this hospital over a period of five years.

MATERIALS AND METHODS

The study was conducted at the University of Port Harcourt Teaching Hospital, located at Alakahia in Obio -Akpor Local Government Area of Rivers State South-South Nigeria, about 15 kilometers from Port Harcourt city along the Port Harcourt axis of the east-west road. The hospital is a 483 bed Federal Government owned health institution with facilities for emergency obstetric care and provides 24- hour emergency maternity coverage. The hospital provides all levels of health care services to Rivers, Bayelsa, Delta, Imo, Abia and Akwa-Ibom states. The hospital also serves as a referral centre to other health facilities within Port Harcourt and beyond.

The study was a five year retrospective review of all cases of ruptured uterus seen among unbooked antenatal care patients seen between January 2008 and December 2012 at the University of Port Harcourt Teaching Hospital, Rivers State, Nigeria. Data was collected from unbookedlabour ward records, theatre registers and patient's case folders using a structured pro forma. During this period, 82 cases of uterine rupture were recorded but 9 cases had incomplete data. Information was obtained on the maternal age, parity, place of intrapartum care, duration, causes of rupture, fetal and maternal outcomes and surgical management.

For this study an unbooked pregnant woman that did not attend any antenatal clinic session with skilled attendant. Patient that booked but defaulted were also included in the study.

The data collected were entered into a computer and analyzed using EPI INFO version ·3.33 software programme.

RESULT

During the five year period, there were 2133 deliveries in the unbooked labour ward of the hospital. Eighty-two cases of ruptured uterus were among unbooked patients and antenatal clinic defaulters, giving an overall incidence of 3.8% deliveries. The yearly trend as well as pattern of occurrence of ruptured uterus in booked and unbooked patients is shown in TABLE 1a and 1b.

Table 1a: Pattern of occurrence of ruptured uterus in booked and unbooked patients

Year	Booked	Unbooked
	Deliveries/No. of uterine ruptures(percentage)	Deliveries/No. of uterine ruptures(percentage)
2008	2961/2(0.07)	332/12(3.4)
2009	2730/NIL	374/12(3.2)
2010	2582/NIL	388/5(1.3)
2011	2953/8(0.3)	100/27(27)
2012	2738/NIL	559/26(4.6)
TOTAL	**13994/10(0.37)**	**2133/82(7.9)**

The incidence of ruptured uterus among booked patients was 0.0007% compared with 3.8% for the unbooked patients and antenatal clinic defaulters for the 5-year period. The over all incidence of uterine rupture for both booked and unbooked mothers was 0.5%.

Table 1b: Trend of maternal mortality/perinatal mortality among unbooked patients with ruptured uterus

Year	Maternal mortality from ruptured uterus	Perinatal mortality from ruptured uterus
2008	1	12
2009	1	11
2010	1	5
2011	2	26
2012	1	25
TOTAL	**6**	**80**

Total No. of Maternal deaths were 55, total no. of deliveries 2133 –Maternal Mortality Ratio 2578.5 per 100,000 live births. Maternal deaths from ruptured uterus was 6, contributing to10.9% of the maternal deaths.

Total Perinatal death was 657 out of a total of 2133 deliveries. Perinatal deaths from ruptured uterus was 80 giving the Perinatal Mortality Rate of 308 per 1000 deliveries, Ruptured uterus contributing to 12.2% of the perinatal deaths.

The highest incidence of ruptured uterus was 27% recorded in 2011. The lowest incidence of ruptured uterus was in 2010 (1.3%). 2008(3.4%), 2009(3.2%), 2010(1.3%), 2011(27%), 2012(4.6%).

The mean age of the patients with uterine rupture was 28± 2years SD. Over half of the women, 42(26.86%) were among the age group 25-29 years. This is shown in the table below

Table 2: Age distribution and number/percentage of uterine rupture

AGE	NUMBER	%
15-19	2	2.4
20-24	12	14.6
25-29	42	51.2
30-34	22	26.8
35-39	4	5.0
	82	**100.0**

Majority of the women were of low parity- Para 2, 15(36.7%); Para 1 and Para 2 contributed to 58.6% of the cases of uterine rupture. Multipara, (Para 3 and Para 4) contributed to 31.7% of the cases of ruptured uterus. Grand multi-paras contributed to 9.7% of ruptured uterus.

Table 3: Distribution of parityand ruptured uterus

Parity	Number	%
1	18	1.9
2	30	36.7
3	14	17.1
4	12	14.6
≥5	8	9.7
	82	100

Those with primary level of education were 48 (46.3%), while those with tertiary level of education were 4 (4.9%) of the cases of uterine rupture.

Table 4: Distribution of the level of education and uterine rupture

LEVEL OF EDUCATION	NUMBER	%
1	48	58.5
2	30	36.6
3	4	4.9
	82	**100**

Table 5: Predisposing factors

	NUMBER	%
Abdominal massage	36	43.9
Obstructed labour with injudicious use of oxytocics	28	34.1
Previous scar	18	22.0
C/s or myomectomy		
	82	100

Abdominal massage was the most common predisposing factor for uterine rupture (43.9%) followed by obstructed labour (34.1%) and previous scar (22%).
The average duration for admission for those with ruptured uterus was 10 days.

Table 6: Type of surgery done for ruptured uterus for the period under review

SURGERY	NUMBER	PERCENTAGE (%)
Repair	38	46.2
Repair + BTL	25	30.7
SUB TAH	13	15.4
TAH	6	7.4
Total	82	100

DISCUSSION

The overall incidence of uterine rupture from the study among amongst unbooked mothers and women who defaulted from antenatal care was 3.8% . This figure was higher than the earlier report of 0.39% for both the booked and unbooked mothers from this centre[5]. The incidence of uterine rupture from this study for both the booked and unbooked mothers of 0.5%. This was similar with the incidence of 0.5% and 0.53% reported in Lagos and Enugu[8,10] but higher than the incidence of 0.33% for uterine rupture from Ife[6]. However, in the developed countries of the world, the lowest incidence of uterine rupture of 0.4 per 1000 deliveries has been documented.[11]

Our study was peculiar because it was limited to unbooked patients and pregnant women who defaulted from antenatal care. Several factors may be responsible for the wide variation in the incidence of uterine rupture in Nigeria. These include socio-cultural factors such as massaging (unconventional application of pressure on the abdomen, fundal pressure inclusive – peculiar to Niger Delta region of Nigeria) which was the commonest risk factor from this study, others are obstetric risk factor such as previous caesarean section scars, presence of skilled birth attendance at delivery, facilities available for emergency obstetric care.[4-6]

In Nigeria it is quite disheartening that the incidence of uterine rupture especially amongst the unbooked patients is worsened with the economy downturn[10] Unfortunately, parturients in labour have turned to spiritual churches to attend to them when in labour at little or no cost. [10,11]Another contributing factor to uterine rupture are manipulations done by the unskilled personnel during assisted vaginal breech deliveries and vaginal birth after caesarean section (VBAC) which is common amongst unbooked patients[12,] these findings are in agreement with several reports from other geographical regions of Nigeria.[13,14,15.]

The age and parity distribution of uterine rupture from our study 28-years and Para 2 were both lower compared with other studies conducted else where in Nigeria.[5,6] Generally, multiparas where most predisposed to uterine rupture this was in agreement with studies done in Port Harcourt, Lagos, Ife, Ibadan and Enugu.[5-10] Primigravida/ Nullipara have been described as being immuned to uterine rupture, especially before the onset of the uterine contractions.[16]

In this study none of the patients were nulliparas confirming the previous statement. However, some other studies have shown the occurrence of uterine rupture in nullipara.[16] It is important to note that some other studies have documented uterine rupture in primigravidae with respect to prolonged obstructed labour and injudicious use of oxytocics.[18]

The incidence of caesareans section among unbooked patients in 2008 was 41%.[19] The interpretation of this is that the epidemiology of uterine rupture will be influenced by this practice in the future.[5,6]

The Perinatal Mortality Rate was 975.6 per 1000 deliveries which was very high, higher than those reported from Ibadan, Enugu, Ife and Lagos.[6-10] Majority 38(46.2%) of the patients had uterine repair only. This was the commonest procedure because majority of these patients were of low parity and had desire for more children. The second option of repair with bilateral tubal ligation (BTL) was done for 25 (30.7%) of the cases followed by subtotal and total abdominal hysterectomy 13(15.4%) and 6(7.4%) of the cases.

The reason for opting for some of these treatment options such as subtotal hysterectomy were probably due to the fact that it was faster and better for patients were which in bad clinical condition.[6-10]

The Maternal Mortality Ratio which was 2578.5 per 100,000 live birth among unbooked mothers was extremely high of which Ruptured uterus contributed 10.9% of the maternal deaths. This figure was higher than reports from other centers in the country because the study was limited to unbooked mothers compared to previous researches with mixture of the booked and unbooked mothers.[11-13] Similarly, ruptured uterus also contributed to 12% of the perinatal mortality ratio of 308 per 1000 deliveries.

Type 1 delay and receiving emergence obstetric care (EMOC) were the two (2) most important reasons for the alarming adverse maternal and perinatal outcome.

The average hospital stay was 10 days. these was in agreement with studies done at Enugu 10.3 days and higher for that of Ibadan 7 days.[9,10,14-17] This is important because it shows the degree of post - operative morbidity and also the economic burden to the patients and relatives.

LIMITATIONS

These patients were all unbooked and defaulters confined to the teaching hospital. This implies that the adverse outcome may even be higher with respect to material and perinatal outcome when compare to the general populace. In addition religious and psychologcal factor were not captured in this study.

CONCLUSION

Uterine rupture is an obstetric emergency, it is associated with high perinatal and maternal mortality. Unbooked patients are at increased risk due to lack of supervision by specialized obstetric care, bad cultural practice such as uterine massage and delays at all levels but especially the type 1 delay. The role of the media cannot be over emphasized to curb this obstetric catastrophy and thus promote safe motherhood.

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