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RESEARCH ARTICLE

Rupture uterus - a cause of concern in rural medical college hospital in Assam

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ABSTRACT

Objective: The study is undertaken to find out the incidence, the cause of it, and the line of management and outcome of rupture uterus. **Methodology:** The entire patient diagnosed and treated from 1st January, 2016 to 31st December, 2016 are included. The detailed history, clinical examination, cause of rupture and line of management are recorded as per proforma. **Result:** Twelve numbers of cases were detected as rupture of uterus out of 7438 total deliveries and incidence of rupture uterus was 0.1%. Out of them 7 cases were post caesarian (58.33%), 3 cases were due to obstructed labour (25%) and 2 cases had associated rupture bladder (16.6%). Six cases had undergo subtotal hysterectomy (50%) and 4 cases had repair (33%). The outcomes of all the cases were satisfactory, all cases survived. **Conclusion:** The Rupture uterus is a matter of concern in obstetric practice. The post caesarian pregnancy and obstructed labour are the leading cause in our institution.

Keywords: Rupture uterus, scarred uterus, subtotal hysterectomy, repair.

The rupture uterus is a potentially life threatening condition to the mother and the foetus. Recently there is a shift of the cause from obstructed labour to post CS pregnancy. Therefore there is a cause of concern of increasing caesarian section (CS) in India. In India it still amounts to 2- 10% of all maternal death, the perinatal mortality is 80% to 90%. As per WHO, the incidence is 2.3 per 10000 deliveries worldwide [1]. However the incidence varies from 1 in 2581 to 1 in 10 [2,3]. Out of different indications of obstetric hysterectomy, lateral rupture, colporrexis involving vagina or bladder, unrepairable rupture are the common reasons. The incidence of obstetrics hysterectomy from different reasons varies from 0.0779% to 0.38% [4,5.] The aim of this study is to find out the incidence, cause, line of management and outcome of rupture uterus.

Material and Method

The study was carried out in the department of Obstetrics and Gynaecology in Fakhruddin Ali Ahmed Medical College, Bapeta from 1st of January, 2016 to 31st December of 2016. All cases diagnosed as complete uterine rupture, where entire thickness including the visceral peritoneum was ruptured were included in the study. The detailed history about antenatal and intranatal care with clinical examination was undertaken. The cases were resuscitated immediately with IV fluid, antibiotics, oxygen etc. The blood was collected from donor as per requirement. The possible investigations were done. The

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cases were put for laparotomy in presense of senior obstetrician under anaesthesia. Different operative procedures were performed as per age, parity and type of rupture. Close monitoring in post operative period was done of her vitals, infection, hydration, urinary output, anaemia etc. Adequate measures were taken in both the cases of bladder rupture, the help of surgeons were taken during operative and post operative period. The data were collected in the standard proforma and they were analyzed.

Result and Observation

The incidence of rupture uterus was 0.1% (12 out of 7438 total deliveries). There were 100% unbooked cases signifying the need for adequate antenatal care. Another significant factor is adolescent pregnancy, which was the

Table 1: Age, parity, other risk factors in rupture uterus (N-12)

Variables		Number (%)
Age in years	<20	7(58.33%)
	20-25	3(25%)
	>25-30	2(16.6%)
	>30	-
Parity	0	2(16.6%)
	1	6(50%)
	2	1(8.33%)
	3	2(16.6%)
	4	1(8.33%)
	≥ 5	-
Risk factors	Post CS	7(58.33%)
	Obstructed labour	3(25%)
	History of D & E	1(8.33%)
	Adolescent pregnancy	6(50%)
	Parity ≥ 3	3(25%)

leading cause of rupture uterus with a number of 6 patients (50%) (table 1) out of total 12 rupture uterus. It shows that child marriage is a significant risk factor for rupture uterus. It was seen that in 2 cases of primipara who had rupture uterus, 1 had history of previous D & E and 1 had history of spontaneous abortion. Therefore, history of previous D&E is another risk factor. However maximum number of rupture uterus was with parity 1(50%) but all of them were post CS. Therefore, there is a need of carefulness in deciding to do primary CS. While looking for the causes, the post CS pregnancy was the leading cause 7(58.33%) followed by obstructed labour 3(25%), History of D&E was found in 1 case (8.33%). In the management, subtotal hysterectomy was maximum with 6(50%) cases, the total hysterectomy in 2(16%) cases, and repair in 4 (33.33%) cases (table 2). Additional

Table 2: Surgical Management of rupture uterus (N=12)

Surgical management	No. of cases (%)
Subtotal Hysterectomy	6(50%)
Total Hysterectomy	2(16.6%)
Repair	4(33%)
Add Procedure- Bilateral tubal ligation	1(8.33%)
Internal iliac artery ligation(bilateral)	1(8.33%)
Bladder repair	2(16.6%)

procedure were done like repair with bilateral tubal ligation in 1 case, subtotal hysterectomy with internal iliac artery ligation in 1 case, the bladder repair which were pre existing in 2 cases. There were no mortality, the success rate were 100%.

Discussion

The rupture uterus is an obstetrics emergency with severe morbidity and possible mortality to the mother and with very high perinatal loss. The incidence of rupture uterus is given in table 3. The incidence was high as these are from underserved areas. Moreover there is lot of riverine areas with difficulty in accessing to health care

Table 3: Incidence of rupture uterus in different studies

Authors	Year	No. of cases	Incidence
Padhye SM [5]	1985-2000	251	1:1000
Ahmadi S et al [1]	1989-1997	28	1:2581
Chatterjee S r et al [6]	1995-2004	40	1:273
Sahu L [9]	1995-2004	253	1:346
S S Choudhury[14]	2011-2012	24	1:590
A Ehigiegbar et al[12]	1991-2002		3.18/1000
I Dhaifalh et al[13]			0.6%
Present study	Jan2016- Dec 2016	12	!: 620

facilities, resulting in transport delay. The cases were from low socio economic condition with poor literacy and ignorance. The child marriage was prevalent in this area. The antenatal care were inadequate, all were unbooked cases (100%), which is comparable to the study of Radhakrishnan (91.66% & 80%) [6]. The cases arrived late in hospital. The age group is highest in below 20 yrs

(58.33%), which highlight the ill effect of child marriage putting women at a higher risk. In the present study the parity was highest in 1- 4 parity (83.33%), which is comparable with the findings of Ethigieba AE (70.16%) [7]. Interestingly in this study two cases of primipara (16.6%) with history of abortion were found which is comparable to Ojenuwah (5.3%) [8].

The significant finding of the present study is that the post CS pregnancy was the leading cause of rupture uterus (58.33%) and it is comparable to Sahu L(50.1%)[9], Sahin Hg et al(39,39%)[10], Malik HS(53.39%)[11], A E Ehigieapar(68.2%)[7], Zeteroglu S et al(45%)[12], I Dhaifaah (48%) [13], S S Choudhury et al (41.66%)[14]. The incidence of obstructed labour is 25% in the present study which is comparable to Sameera Khan(26.6%) [15], Radhakrishnan (26.6%) [6], A E Ehigieapar(38.6%)[12], S S Choudhury et al (29.16%) [14] but higher in other studies like Israq Dhaifalah(83%) [13] and Chuni N(46.5%) [16]. The leading way of management is hysterectomy [subtotal hysterectomy (STH) - 50%, total hysterectomy -16.6%] which is comparable to A E Ehigieapar et al(27%)[7], S S Chaoudhury et al [14] (STH + STH and internal iliac artery ligation - 41.66%). The repair was done in 33.33% which is lower than study like Sameera Khan et al 20(52.9%), S A Ojenuwah(50%) [8], S S Choudhury et al (50%)[14]. The repair is lower in our study because they arrived late. As this area is a rural underserved area with lot of riverine areas the transportation was difficult. Moreover the poverty, illiteracy, ignorance, and lack of health care we found a lot of difficult cases. Munro Kerr's advice for internal iliac artery ligation in grave condition and it was done in one case. Boy in 1962 advocated hysterectomy as the mortality is high in repair cases because toxins are absorbed and the some devitalized tissue remains inside the abdomen. In our series, there is no morality but in the study where repair is high, the mortality is reported as in the study of S S Choudhury (1 case) [14].

Conclusion

The rupture of uterus is still a challenging task in practice of obstetrics with severe morbidity and possible mortality, Therefore the emphasis should be given in prevention, early detection, early referral and prompt management. The rise of general CS rate with consequent increase of post CS rupture is a matter of concern. Therefore the primary CS should not be one for trivial cause like request, supposed prolongation of labour. Moreover the patient and party must be counseled at the time of discharge, that the next delivery must be done in a well equipped hospital alongwith frequent antenatal care, otherwise rupture uterus may occur. The rupture of uterus is a preventable cause to a large extent and its prevention can save lives.

Conflict of interest: None. **Disclaimer:** Nil.

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