

## A 10 years review of rupture pregnant uterus in Basra maternity and child hospital

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### الخلاصة

الدراسة توثق تجربة انفجار الرحم والتي تعتبر حالة نادرة حرجية وتؤدي إلى مضاعفات خطيرة في محافظة البصرة أيضاً لتسبب الوفاة على أسبَاب ونتائج انفجار الرحم وبالتالي وضع إستراتيجية فعالة لمنعها بالمستقبل .

هذه الدراسة تمت في العراق محافظة البصرة مستشفى في البصرة للولادة والطفل وشملت جميع المرضى اللذين عانوا من انفجار الرحم خلال عشر سنوات منذ الأول من كانون الثاني 1999 إلى الأول من كانون الثاني 2009 نتائج وقورنت مع الدول المجاورة والدول الخليجية والدول النامية والدول المتقدمة .

حوالي 188 امرأة مدنت خلال مدة الدراسة من أصل (150515) ولادة حدثت في المستشفى أي بمعدل (1: 801) أن أهم أسباب الانفجار للرحم هو وجود عملية قيصرية سابقة أي بنسبة (29.7%) مع بضع الحوض (26.5%) م وضع حبوب السابتوتك لتخفيف زال ولادة (12.7%) والي (67.2%) هم انفجار كلبي وأجريت لهم عملية قلع الرحم بنسبة (55.2%) ان هذا كحوالي (9.5%) فيات للأمهات و (62.7%) وفيات للمواليد .

في هذه الدراسة لا يزال انفجار الرحم يمثل حالة حرجية وخطيرة في البصرة بالرغم أنها مشكلة يمكن تجنبها وذلك بتطبيق وير مسد توى الذدمات الصحية ورفع المسد توى المعاشي والاقتصادي للعائلة العراقية مع تأكيد على تحسين الرعاية الصحية الأولية لهذه الأسباب باب كلها قد تؤدي إلى تقليل نسبة انفجار الرحم وبالتالي تقليل من وفيات الأطفال المواليد والأمهات أثناء الولادة.

### Abstract

**Objectives:** This study aims to document the experience of uterin rupture as a serious common complicaion of pregnancy in Basra (Iraq), it also aim to reviewing the main risk factors as to draw board lines for a strategy of prevention.

**Methods :**It is a retrospective study carried out at Basra maternity and child hospital (Iraq) medical records were reviewed for all patient with uterine rupture from the first of Jan. 1999 to the first of Jan. 2009 .

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The data was analyzed and findings were reviewed to compare the result of similar studies.

Results: Out of a total number of deliveries in the studied period of (150514) 188 cases were diagnosed to have uterine rupture giving an incidence of 1:801. The main contributory factor of uterine rupture in this study were previous scar (29.7%) followed by CPD (26.5%) followed by PG insertion (12.7%). Around (67.02%) had complete rupture uterus. Subtotal hysterectomy was carried out in (55.2%), there was (9.5%) maternal mortality and perinatal mortality rate (62.7%).

Conclusion : This study confirms the existence of serious preventable obstetrical problems, poor provision of health services, low socio-economic standard and poor antenatal care so both social and medical improvement will significantly improve survival in the mother with ruptured uterus and reduce perinatal mortality loss.

## **Introduction**

Rupture of the pregnant uterus is one of the serious complications of pregnancy and can be a life-threatening emergency and associated with high morbidity and mortality to both mothers and fetus<sup>(1)</sup>.

The clinical picture of uterine rupture has changed considerably since Ames' report in 1881, historically, the most common predisposing factors were grandmultiparity, obstructed labour, obstetric trauma resulting from prolonged or neglected labour, fetal macrosomia, internal podalic version, breech extraction, previous scarring and oxytocin, prostaglandin insertion<sup>(2)</sup>.

There are two types of uterine rupture: complete and incomplete, distinguished by whether or not the serous coat of the uterus is involved<sup>(3)</sup>.

Rupture of the uterus during labour is more dangerous than that occurring in pregnancy because shock is greater and infection is almost inevitable<sup>(4)</sup>.

Obstetrical care in the western world is at its peak but in developing countries it is still at the dock<sup>(5)</sup>.

Uterine rupture is a catastrophic event in any women's life as the patient might lose her future fertility due to inevitable hysterectomy<sup>(6)</sup>.

Uterine rupture is a serious complications of pregnancy associated with high maternal and perinatal mortality and an incidence of 17% maternal death and 95% perinatal mortality was reported from Harare, Zimbabwe<sup>(7)</sup>, 7% of maternal mortality and 46% perinatal mortality from Sudan<sup>(8)</sup>.

However from Nageria a maternal mortality of 22% and perinatal mortality of 88% were reported<sup>(9)</sup>.

Repeated an incidence of rupture uterus was varied from 1/37 deliveries in kaduna Nigeria<sup>(9)</sup>, while 1:3300 in Dublin<sup>(10)</sup>.

## **Patients and Methods**

This study is a retrospective study carried out at Basra maternity and child Hospital which is the main tertiary center in the Southern part of Iraq, it serve the Southern part of Basra and to some extent it might reflect the Basra governorate through a ten years period from the first of Jan. 1999 to the first of Jan 2009.

The records of the patient were studied including their age, parity, gestational age, direct risk factor for rupture uterus, clinical presentations, type of uterine rupture. Operative procedure, cases who died before the operation and confirmation of rupture uterus was excluded, maternal and fetal outcome were collected, the literature was reviewed to compare the results of Similar studies in neighboring countries and to developed and developing countries.

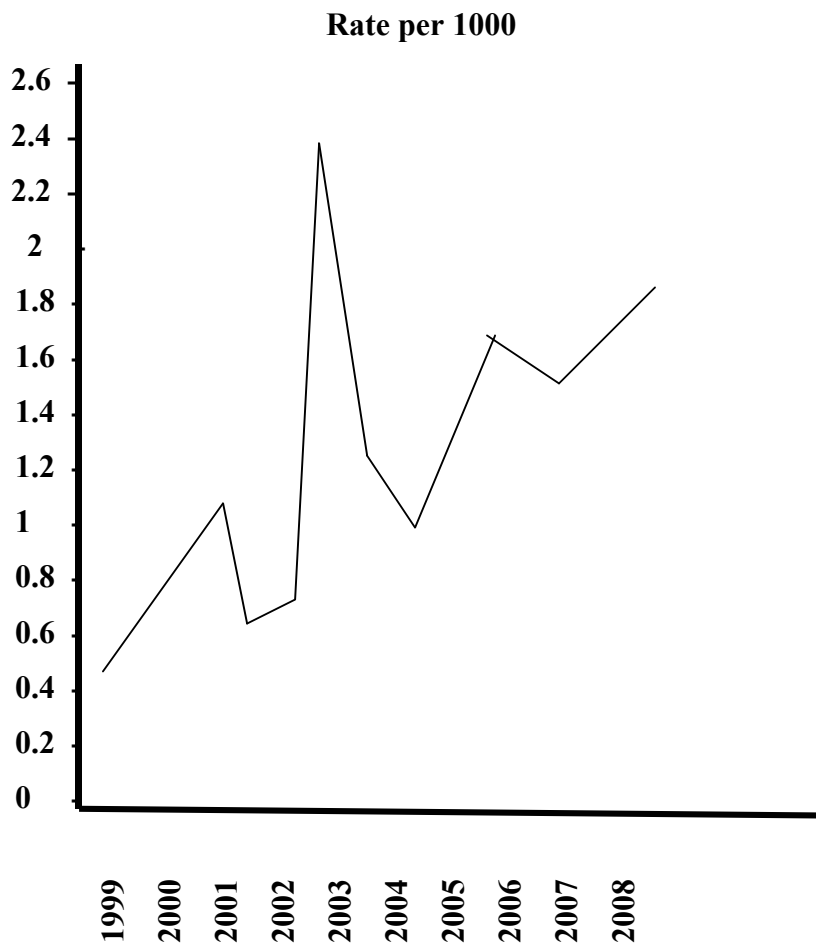
## **Results**

### **Table .No-1**

It shows 188 cases of uterine rupture were diagnosed from the hospital records from the 1<sup>st</sup> of Jan 1999 till the 1<sup>st</sup> of Jan 2008. during this period there were (150514) deliveries the overall incidence of uterine rupture was 1:801 with increase the number during (2003, 2004) period of Iraq invasion .

**Table -1- Rate of rupture uterus per birth in studied years.**

Years	No. of total deliveries	Rupture uterus	Rate per 1000
1999	13308	6	0.45
2000	12248	14	1.14
2001	12145	8	0.65
2002	12632	10	0.79
2003	12868	32	2.4
2004	16641	20	1.20
2005	17439	14	0.80
2006	18061	28	1.5
2007	17881	26	1.4
2008	17291	30	1.7
<b>Total</b>	<b>150514</b>	<b>188</b>	<b>1.24</b>



**Table .No-2**

Shows the age and parity of cases of rupture uterus, the peak number was among the age group of 44 and above and among the grandmultipara.

**Table -2- Age and parity distribution with rupture uterus**

Age year	Parity (188)			Total
	Prime	P1-4	P 5≥	
< 20	2	2	0	4
20-24		8	4	12
25-29		10	14	24
30-34	2	6	12	20
35-39	2	6	18	26
40-44	2	18	24	44
>44		22	36	58
Total	8	72	108	188

**Table .No-3**

It shows that majority of rupture uterus occurring in intact uterus 58.5% mostly due to CPD (26.5%) followed by PG insertion (12.7%) followed by previous C.S 29.7%.

**Table -3- Causes of uterine rupture and maternal mortality .**

Nature of rupture	Detail	No.	%	Maternal death	%
Rupture of scared uteruse	L.S.C.S	56	29.7	4	2.1
	Myomectomy	2	1.06	-	-
	Total	58	30.76	4	2.1
Spontaneous Rupture of intact uterus	CPD	50	26.5	8	4.2
	Transverse lie	14	7.4	2	1.06
	Extended cervical tear	6	3.1	-	-
	PG induction	24	12.7	4	2.1
	Oxytocin Augmentation	16	8.5	-	-
	Total	110	58.5	14	7.4
Traumatic rupture of intact uterus	Instrumental	14	7.4	-	-
	Breech extraction of big size baby	6	3.1	-	-
	<b>Total</b>	<b>20</b>	<b>10.5</b>	<b>18</b>	<b>9.5</b>

**Table .No-4**

Shows that the most prevalent period of rupture uterus occurs among those with gestational age between 37 and above(78.7%).

**Table -4- Peroid of gestational age associated with rupture uterus**

P.O.A	No.	%
Less than 28 wk	4	2.12
28-32 wk	14	7.4
33-36 wk	22	11.7
37 and above	148	78.7
<b>Total</b>	<b>188</b>	<b>100</b>

**Table .No-5**

The most common presentation was rapid pulse 64.8%, followed by vaginal bleeding 46.8% . In our study most of our patients arrived late to the hospital and hence the provisional diagnosis of uterine rupture was correct in 75.4% and 24.6% the diagnosis was missed and only made during lapratomy.

**Table -5- Clinical presentation of rupture uterus**

Clinical Presentation	No.	%
Cessation of uterine contraction	84	44.6
Rapid pulse $\geq$ 110	122	64.8
Absence of fetal heart sound	60	31.9
Vaginal bleeding	88	46.8
Sever Abdominal pain	56	29.7
Pallor	62	32.9
Systolic BP < 100 mm Hg	68	36.1
Easily palpable fetal part	36	19.1

**Table .No-6**

It shows that 67.02% was complete rupture and 32.8% was incomplete and 55.2% of complete rupture were treated by subtotal hysterectomy.

**Table -6- Type and management of uterine rupture**

Type of surgery	Compleat rupture N = 126		In complete rupture N = 62		Total	
	No.	%	No.	%	No.	%
Subtotal hysterectomy * 4 Bladder injury * 2 ureteric injury.	68	36,1	26	19.1	104	55.2
Repair with out sterilization	40	21,2	20	10.6	60	31.9
Repair with sterilization	18	9.5	6	3.1	24	12.68
Total	126	67.02	62	32.9	188	100

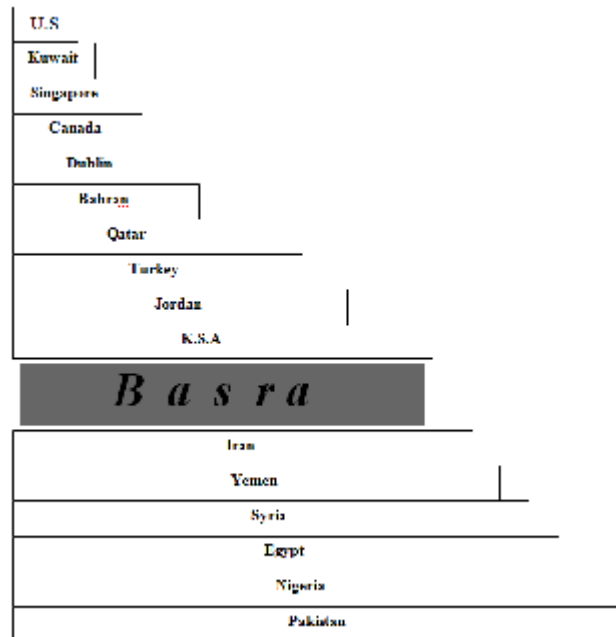
**Table .No-7**

Shows comparison in the incidence, maternal and perinatal deaths in our study with our neighboring, developed and developing countries.

**Table -7- Incidence of maternal and perinatal death**

Country	Year	No of cases	Incidence	Maternal death	%	Prenatal death	%	Comment
Iraq (basra)	99-2008	188	1:801	18	9.5	118	62.7	Neighboring countries
<sup>(11)</sup> Iraq Mousl	79-83	50	1:906	13	26.0	48	96	
<sup>(12)</sup> Kuwait	81-93	91	1:11851	3	3.3	23	25.5	
<sup>(13)</sup> Qatar	98-2008	31	1:2175	1	3.2	6	18.2	
<sup>(14)</sup> Bahrn	90-99	45	1:2213	0	0	1	12.1	
<sup>(15)</sup> Jorden	94-98	21	1:1196	0	0	7	33.3	
<sup>(16)</sup> Syria	10 years	64	1:565	3	4.3	13	20.6	
<sup>(17)</sup> KSA	99-2000	13	1:1011	1	4.6	3	13	
<sup>(18)</sup> Turkey	90-92	40	1:1457	0	0	13	32.5	
<sup>(19)</sup> Iran	67-77	64	1:702	6	9.4	57	89	
<sup>(20)</sup> U.S.A	83-94	13	1:16849	0	0	0	0	Developed countries
<sup>(21)</sup> Canada	88-97	39	1:3393	0	0	2	5	
<sup>(22)</sup> Dublin	92-2001	22	1:2809	0	0	4	18.1	
<sup>(23)</sup> Singapore	83-94	26	1:6331	1	3.8	2	7.5	
<sup>(24)</sup> Sudan	92-97	86	1:246	6	7	68	79	Developin countries
<sup>(25)</sup> Yemen	96-97	37	1:630	0	0	21	54.3	
<sup>(26)</sup> Nigeria	94-99	33	1:196	9	4.5	30	92.5	
<sup>(27)</sup> Pakistan	2001-02	34	1:100	0	0	31	91.2	
<sup>(28)</sup> Egypt	79-88	126	1:367	27	21.4	93	73.1	
							9	

Table -8- incidence of rupture uterus



## Discussion

Rupture uterus is a serious complications of child birth and remains one of the major cause of maternal and perinatal mortality (29)

The true incidence of uterine rupture may never be known as many cases hide among the statistic of maternal deaths due to obstetric Shock, the incidence of uterine rupture in our study does not reflect exactly the true incidence of rupture uterus in Iraq, but to some extent it meight gives an Idea about its incidence in Basra, our study Shows that the incidence of rupture uterus in Basra maternity hospital is much higher than that in developed and Arab gulf countries such as, USA, Kuwait, Singapore, Canada, Dublin, Bahrain, Qatar, Turkey, Jordan and KSA, but it is lesser than that of Iran, Yemen, Syria, Egypt, Nigeria and Pakistan <sup>(11-28)</sup> Basra incidence of rupture uterus which been regarded as high when compared to the developed and Arab gulf countries can be attributed to the poor antenatal and intrapartum care resulting from several factors such as ignorance, Poverty and inadequate health facilities which may be attributed to the years of Sanctions or



during the years of Iraqi invasion and violence that Iraq pass through during the studied period.

On the other hand CPD which lead to Obstructed labour with scared uterus and PG insertion were found to be the predominant factors for uterine rupture in Basra, and it was found that old age mothers who were grandmultipara are more prone to have rupture uterus as shown in table 2 and this was in agreement with findings of on Wuhufue et al <sup>(9)</sup> and this can be explained that in these group of patients there is a tendency for large babies, malposition and presentation which resulted in CPD and obstructed labour.

While the uterine rupture in scared patients can be avoided if they were reported to hospital earlier once they felt labor pain, or if they were attending the antenatal care clinics and there number in our study around 58 (30.76%).

In this study rupture uterus due to PG insertion vaginally or oxytocin use by mid wives or in hospital with inadequate monitoring represents around 40 patients (21%), so a strict Iraqi law should be promulgated to prohibit the use of these drugs outside the hospital by the midwives.

The maternal mortality and perinatal mortality (9.5%, 62.7%) respectively still very high when compared with developed and Arab gulf countries <sup>(12-23)</sup> but it is still lesser than that found in developing countries such as Sudan <sup>(24)</sup>, Yamen<sup>(25)</sup>, Egypt <sup>(28)</sup>, Nigeria <sup>(26)</sup> and Pakastan<sup>(27)</sup>.

And this was in agreement with other studies done by Fawaz H.W<sup>(8)</sup> and Mokgkon ET<sup>(29)</sup>.

Patients were unwilling to have their uteri removed and this was reflected in our study that 60 patients (31.9%) the uterus was repaired. Nevertheless, all repaired uteri patients were informed of possible complications in future pregnancies so hospitalization and elective C.S at 37 weeks of gestation in subsequent pregnancy is recommended.

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