

Uterine Rupture Case Study at Kolda Regional Hospital Center

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Keywords

Uterine rupture, Medicines, Cases.

Introduction

Uterine rupture is defined as a complete or incomplete, non-surgical solution of continuity occurring on a gravid uterus [1,2]. This is a major surgical emergency involving both fetal and maternal prognosis. Although it has become exceptional in the Western world through clinical and electronic monitoring of labor, delivery, and prophylactic measures during pregnancy, its incidence is still high in developing countries. In Africa, and particularly in sub-Saharan Africa, uterine break is still one of the essential concerns of the obstetrician, where its incidence varies from 0.25 to 2.33% deliveries [3-5]. In Senegal its incidence is 0.66%.

Patients and Methods

This is a descriptive retrospective study from January 1st, 2006 to December 31st, 2016 conducted at the maternity ward at Kolda regional hospital (level 2). Located in the middle Casamance and bordering the Republic of Guinea Bissau, the Kolda region has only one hospital.

This study includes all cases of uterine rupture evacuated or discovered in the service regardless of the route of delivery. Thus, we excluded from the study, all cervical tears not spreading to the uterus, or those following an abortive maneuver. The data were collected from patients' medical files, and then entered with Excel software. The statistical analysis of the results was carried out with the Epi-info software.

Thus, we studied the following parameters including age, parity, mode of admission, the existence or not of a uterine scar, the term of pregnancy, the mode of entry into labor, abnormalities during labor, causes of dystocia, maternofetal complications and therapeutic aspects.

Results

During this 11-year study, 15343 deliveries were recorded, and we collected 86 cases of uterine rupture, that is a frequency of 0.56%.

The average age of the patients was 24.9 years with extremes of 15 and 40 years. The average case parity was 5.4 deliveries with extremes of 1 and 11. Six (6.9%) patients had never received antenatal care (ANC), however only 10.4% of our patients had gone through four ANC.

Almost all of the patients (93%) were evacuated to the maternity coming from the Kolda region (74.4%), the Sedhiou region (19.8%) and the Republic of Guinea Bissau (5.8%).

Age range	Number	Percentage
< 20 years	29	33.7%
[20 - 30 years]	34	39.5%
≥ 30 years	23	26.7%
Total	86	100%

Table 1: Distribution of patients by age group.

The rupture occurred on new uterus in 68.1% of cases whereas 6.9% of patients had already had at least two uterine scars. The diagnosis of rupture is made on an evident clinical syndrome in 87.2% of cases, 6 cases were discovered after delivery during a uterine revision (6.9%) for placental retention or haemorrhage of delivery, 5 case of incidental discovery (5.8%) during cesarean section for another obstetrical motive.

The rupture occurred in the lower segment in 78% of the cases, at the corporeal level 12%, and it was complete in 65% of the cases. We noted a uterine scar disunion in 23% of our patients and the rupture reached the uterine pedicles in 27.9% of the cases.

Intensive care was essential in 83% of the cases, including

a blood transfusion. All patients received surgical treatment. Hysterectomy was performed in 24 cases (27.9%), conservative suture was performed in 72.1% of patients. Eight maternal deaths were recorded (9.3%), while perinatal mortality was 93%.

Parity	Number	Percentage
Nulliparous and primiparous	13	15.1%
Pauciparous (≤ 3)	29	33.8%
Multiparous (≥ 4)	37	43%
Large multiparous (≥ 7)	7	8.1%
Total	86	100%

Table 2: Distribution of patients according to parity.

Condition of the uterus	Number	Percentage
New uterus	59	68.6%
One-scarred	21	24.4%
Bi-scarred and more	6	7%
Total	86	100%

Table 3: Distribution of patients by uterine condition.

Prognosis		Number	Percentage
Maternal prognosis	Deaths	8	9.3%
	postoperative anemia	31	36.3%
Fetal prognosis	Neonatal Deaths	80	93%
	Apgar ≤ 6	6	7%

Table 4: Distribution of patients according to prognosis maternofoetal.

Discussion

In Senegal, we did not find statistics available at the national level. A study conducted in 2002 by CISSE in a hospital in Dakar found a much higher rate or a frequency of 2.2% [5]. The frequency of uterine rupture in our series was 0.56%. This drop in uterine rupture rate in our health structures, could probably be explained by the improvement of access to care following the implementation of the national policy of free cesarean section in our country since 2012.

Uterine rupture is much more common in Africa. In Niger DIALLO found a frequency of 1.8%. Thus Akpadza in Togo had found a rate of 0.78% [6].

This can be explained by precarious socio-economic conditions, lower levels of medical supervision. In fact, it is the lack of qualified personnel and adequate health infrastructures that is responsible for the high rates of uterine rupture.

While this serious complication is still common in Africa, it has become rare in industrialized countries. In France, the frequency of uterine rupture varies from 1/1000 to 1/2000 deliveries [7,8]. In the United States, it was 0.07% of deliveries in 2004 [10,11] and less than 0.001 deliveries according to another study published in 2005.

The average age of uterine rupture in our series was 24.9 years,

well below that of developed countries. This disparity is explained by an early age of marriage in Senegal, particularly in the Kolda region.

Large multiparity is generally recognized as one of the etiological factors associated with a high risk of uterine rupture on a non-cicatrice uterus during labor [3,11]. In our series, uterine rupture occurred in 54 cases (62.7%) in patients who had a parity greater than 5 and an age greater than or equal to 26 years. Advanced maternal age is most often associated with high parity. This multiparity is reflected in the traditional notion of procreation rooted in our societies, the level of education and information, the difficulty of accessing family planning care [4,6,11].

In our series, 30.1% of patients had at least one uterine scar. Uterine rupture of the uterus is more important in developed countries, whereas in developing countries, where the caesarean section rate is still low, it occurs mainly in a healthy uterus [3,13,14]. Spontaneous rupture of a non-cicatrice uterus has become exceptional in developed countries where its frequency is estimated to be between 1 in 10 000 and 1 in 20 000 deliveries [7,8,14,15]. It can be spontaneous or provoked. Breaks caused are rare. They occur during the misuse of utero-tonics, obstetric maneuvers. Inadequate use of oxytocic or synthetic prostaglandins causes tearing, usually by uterine hypertonia and is therefore an etiologic factor for uterine rupture [8,16,17,18, 19].

We performed 27.9% hysterectomy in our series, whereas in developed countries almost all patients have a conservative suture. Our attitude took into account certain parameters, namely the extent of the lesions, the involvement of the vascular pedicles and the state of the bank. Regarding the maternal prognosis, the mortality in our series was 9.3%. Our results are higher than those of North African countries where 7.1% of maternal deaths were found by Ahmadi in Tunisia [20]. Parant in France found a maternal mortality rate related to uterine rupture of 0.07% [8].

On the other hand, our results are similar to those found in the developing countries, which varies from 4.7 to 11.1% [4, 5,21]. Uterine rupture is fraught with significant morbidity and fetal mortality. The perinatal death rate was 93% in our series.

In developed countries, the stillbirth associated with rupture is very low. Thus the Dutch national study of Zwart found a perinatal mortality rate of 5.9% [21]. The smaller series, which evaluated perinatal mortality in the case of a long-term UK, found lower rates between 0 and 2.8%. In the African series the numbers were higher with a very high mortality rate. In Ethiopia, Gessesew et al. [22] and Dolo A et al. [23] found a respective rate of 98.1% and 95%.

Conclusion

Uterine rupture remains a serious obstetric complication with high maternal and fetal morbidity and mortality. Indeed, it represents a major indicator of the level of performance of a health system. Only early diagnosis can improve maternal and fetal vital prognosis.

To prevent this accident, it is necessary to have qualified, sufficient and well distributed personnel throughout the national territory. It is also important to establish a protocol for a better use of medicines in delivery wards.

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