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RESEARCH ARTICLE

TRIAL OF LABOR AT THE MATERNITY DEPARTMENT OF THE SOUROSANOU UNIVERSITY HOSPITAL (CHUSS): CLINICAL ASPECTS, THE MATERNAL AND PERINATAL PROGNOSTICS

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Abstract

Aims : We aimed at studying the clinical aspects and the maternal and perinatal prognostics during trial of labor at the Gynecology and Obstetrics Unit.

Patients and Methods : This is a transversal and Descriptive study over a period of 06 months from 1 st May to 30 th October 2016 in the Gynecology and Obstetrics Unit of the SourôSanou University Hospital (CHUSS). The data were collected and analyzed by the software Epi info version 3.4.5.

Results : During the period of study, 109 cases of trial of labor for a total of 2124 births were registered, with an overall frequency of 5.13%. The average age of the patients was 26.6 years. In 42.2% of cases, the patients were primiparious . Admission was direct in 85.5% of cases. The coverage rate for prenatal consultation was 100%. There was vaginal delivery for 108 patients, ie a success rate of 99.08% for trial of labor. An episiotomy was performed in 18.34% of those who delivered vaginally with a labor time less than 3 hours in 65.13% of cases. The indication of the cesarean section during the failure of the trial of labor was dominated by acute fetal distress in 0.91% of cases. Among the 14 patients who had complications during the postpartum period, 06 cases of postpartum hemorrhage of 22.85%, were noted, but did not occasion any maternal death. We registered 109 newborns including 106 alive (97.2%), 10 fresh stillborn, 02 perinatal deaths and 01 macerated stillborn. Among the 13 cases of perinatal morbidity, infections, neonatal suffering and hypotrophy were largely dominant with 5.5%, 38, and 5.34% of the cases.

Conclusion : The results of our study (99.08% of success) argue in favor of vaginal delivery after uterine scar, with little risk related to this scar when the pregnancies are followed closely. Indeed, with a normal and careful obstetric monitoring, a scarred uterus after one segmental cesarean section must be considered as a normal uterus that can allow the woman to deliver simply without her being exposed to any particular risk of uterine rupture.

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Introduction:-

The trial of labor is an attempted vaginal delivery on a scarred uterus.

The trial of vaginal delivery on a scarred uterus took off considerably in the early 1980s. Many studies agree in recognizing the benefits of uterine testing in terms of mortality, morbidity and economy of health [1]. But the need for electronic monitoring using a cardiotocograph during labor has long limited the use of uterine testing in African obstetric practice [1].

The frequency of the practice of the uterine test varies between 7.1 and 9.2% in industrialized countries (USA, France) and oscillates between 1.7 and 2.4% in black Africa (Senegal, Tanzania, Congo) [1].

In Burkina Faso, this rate was 3.74% at the CHU of Bobo-Dioulasso in 2007 and 3.38% in 2009 at the CHU-YO of Ouagadougou [2, 3].

What to do when faced with a scarred uterus had become a subject ofdebate in modern obstetrics. Indeed, the occurrence of a pregnancy on a scarred uterus is characterized by the high frequency of its multiple complications and its high rate of maternal and neonatal morbidity and mortality [4]. In developed countries this mortality is mainly due to postpartum hemorrhage, while in developing countries it is due to uterine rupture.

For nearly 30 years, there has been an increase in the rate of caesarean section in the world. In industrialized countries, this rate is above 15%. It is 24% in the USA [5], 20.8% in France [6], 24.9% in Spain and 26.6% in Canada. The ideal caesarean section rate according to WHO is between 10 and 15% [6]. In developing countries the caesarean section rate tends to experience the same fate.

The progress made in recent years in the management of scarred uteri and the generalization of segmental cesarean section to the detriment of corporeal have made vaginal delivery possible in patients who have previously had a caesarean section [7]. Thus, we note more and more a widening of the indications of the uterine test [8]

The aim of our work is to study the epidemiological, clinical and prognostic aspects of the uterine test in the department of gynecology and obstetrics of the CHUSS of Bobo-Dioulasso in order to improve its management.

Patients and Methods:-

This was a descriptive cross-sectional study with prospective data collection from May 1 to October 31, 2015. Our study took place in the department of obstetrics gynecology and reproductive medicine of the Sourô University Hospital Center Sanou from Bobo-Dioulasso (CHUSS) . It concerned all pregnant women with a single-scarred uterus admitted during labor to the CHUSS maternity ward during the study period. Were included in our study, all the parturients with a uni-scarred uterus linked to a cesarean section, as well as all the parturients carrying a mono-fetal pregnancy of term ≥ 28 WA with a presentation of the vertex in which childbirth vaginally was indicated at the CHUSS maternity ward.Were not included in our study, parturients who did not consent to the survey, those with a scarred uterus in whom a caesarean section was immediately indicated and those with a history of uterine rupture.

Data were collected from an individual record, clinical records and delivery room registers. They were entered and analyzed using a microcomputer and Epi-Info software version 3.4.5.

Oral consent was requested from parturients included in the study in the delivery room at the time of the survey.

For this consent, each woman was informed that her participation in the study was voluntary and that refusing to participate would have no consequences on the care she was to receive.

Results:-

1. Frequency

During the study period, we recorded 157 cases of scarred uterus, 109 cases of uterine proof, 2124 deliveries, the frequency of uterine proof is 5.13%.

2. Sociodemographic characteristics of patients

Table I summarizes the socio-demographic characteristics of the patients.

Age
The average age was 26.6 years, with extremes of 18 and 40 years. The 25-29 age group was the most represented (41.68%).

Parity
The average parity was 2.7 with extremes of 2 and 6, the Pauciparous were the most represented (53.21%) of the cases. Table IV below gives the distribution of patients according to parity.

Occupation
Housewives represented 95.19% of the workforce, pupils/students 1.92% and shopkeepers 1.92%.

Marital status
Married women represented 98.08% of the workforce, and single people 1.92%.

Educational level
For the level of education, 49 patients (54%) were not educated, 17 patients (19%) had a primary level, 13 patients (15%) had a secondary level and 12 patients (14%) had a superior.

Origin
The majority of patients (86.11%) lived in the city while 13.89% lived outside Bobo-Dioulasso.

Table I:- Socio-demographic characteristics of patients.

Variables	Percentage (%)
Age range of patients in years	
18 -20 years old	4.13
21-24 years old	27.08
25-29 years old	**41.66**
30-34 years old	15.62
35-39 years old	8.34
Greater than or equal to 40 years old	3.12
Parity	
Primiparous (1)	16.5
Pauciparous (2-3)	**53.21**
Multiparous (4-6)	24.7
Great multiparous (≥7)	5.5
Occupation	
Housewives	**95.19**
traders	1.92
Students	1.92
Official	0.96
Marital status	
Bride	**98.08**
Bachelor	1.92
Educational level	
No schooling	**54**
Primary	19
Secondary	15
Superior	14
Origin	
Bobo Dioulasso	**86.11**
Excluding Bobo-Dioulasso	13.89

3. Clinical aspects

Mode of admission

Patients who came on their own were 93 in number (85% of cases). Those evacuated (16 cases) came from peripheral urban and rural centers sometimes located 100 km around the city of Bobo-Dioulasso.

Reason for admission

Out of a total of 109 patients, 66 (i.e. 60.55% of cases) were admitted for abdominal-pelvic pain on scarred uterus and 43 patients were evacuated from peripheral structures for better management.

Table II below gives the distribution of patients according to the reason for admission.

Table II:- Distribution of patients by reason for admission.

Pattern	**Percentage**
Abdomino-pelvic pain	60.55
Start of work on UC	18.34
Insufficient technical platform + CPU	10.09
Premature ruptures of membranes +UC	5.50
Acute fetal distress on UC	3.66
Anemia on UC	1.83
Total	**100**

Pregnancy follow-up

For pregnancy monitoring, 52 patients (57.5%) performed 4 ANCs, 30 patients (27.5%) had performed 3 ANCs, 19 patients (17.43%) had performed 2 ANCs and 8 patients had performed one (1) ANC (7.33%).

These prenatal consultations were carried out by a midwife in 96 cases (88.07%) and by a gynecologist in 13 cases (12%).

Term of pregnancy

The breakdown by term of pregnancy was as follows:

1. 28-33SA+6 days 2 cases: (1.8%)
2. 34- 36 weeks + 6 days 7 cases: (8.25)
3. 37- 40SA+6 days 98 cases: (89.9%)
4. ≥41 WA: 2 cases (1.8%)

Birth interval

The birth interval was as follows:

2 years: 5 cases (4.6%)

between 2 and 5 years: 71 cases (64.2%), - at 5 years: 33 cases (30.5%).

Trial of labor

It was indicated in the 109 parturients with a mono-scarred uterus with a clinically normal pelvis and vertex presentation.

The success rate was 99.08% and we performed a caesarean section for Chastrusse syndrome in 1 case.

Delivery route

Of the 109 parturients, 108 delivered vaginally and one (1) delivered intravenously. Among those who gave birth vaginally, 20 benefited from an episiotomy (18.34%) and 15 benefited from the application of a suction cup (13.7%).

Issuance

Active management of the third stage of labor (AMTSL) was performed in all cases of vaginal delivery.

Duration of work from admission

The working hours were broken down as follows:

- less than 3 hours: 71 cases (65.13%)
- between 6 a.m. and 8 a.m.: 30 cases (27.5%) -greater than 8 hours: 8 cases (7.33%).

Prognosis

Maternal prognosis

Morbidity

Regarding maternal morbidity, we had a complication in 14 cases (12.84%).

Table III below gives the repair of the patients according to the complications.

Table III:- Distribution of patients according to maternal complications after childbirth.

Complications	**Percentage**
Anemia	21.4
Postpartum hemorrhage	42.85
Tearing of the perineum	28.50
Cervical tear	7.14
Total	**100**

Mortality

No maternal deaths were recorded during the study

Perinatal prognosis

Morbidity

Of a total of 109 patients, we recorded 106 live births (97.24%), 3 stillbirths and 13 newborns (11.92%) were transferred to neonatology for low birth weight (5.51%) , neonatal suffering (5.5%) and neonatal infection (0.91%), among which we recorded 2 deaths.

The Apgar Score

It was evaluated at the 1st minute, 5th minute and 10th minute. Table IV below gives the distribution of newborns with the Apgar score.

Table IV:- Distribution of newborns according to Apgar score.

APGAR score	**1st minute**		**5th minute**		**10th minute**	
	n	**%**	**n**	**%**	**n**	**%**
0	4	2.75	4	2.75	4	2.75
1-3	3	3.66	3	3.66	3	3.66
4-6	9	8.25	9	8.25	9	8.25
7-10	93	85.32	93	85.32	93	85.32
Total	**242**	**100.00**	**242**	**100.00**	**242**	**100.00**

Birth weight

The average birth weight was 3078 ±837g with extremes of 1350g and 3980g.

Perinatal mortality

During the study period we recorded 5 cases of perinatal death distributed as follows:

1. per-partum 3 cases (2.75%)
2. in early neonatal between D1 and D7 2 cases (1.83%)

Discussion:-

Frequency

Our frequency (5.13%) is higher than those reported by Diadhiou [9] in Dakar, Dembélé [10] in Bobo-Dioulasso and Diallo [11] in Mali which were respectively 3.33, 3.6% and 4.21%. It is lower than that reported by Abassi [7] in Morocco, which was 5.83%.

Uterine proof was performed on 69.4% of all scarred uteri in our study. This rate was 42% in Diadhiou [9], 56% in Dembélé [10] and 86.2% in Abbassi [7]. This rate depends on the selection criteria established for the uterine test.

Abbassi [7] et al. expanded the indications for uterine testing to include narrowed pelvises, twin pregnancy, breech presentation and bi-scar uterus . This broadening of indications for uterine testing requires adequate means and qualified personnel for monitoring.

Sociodemographic characteristics of patients

Age

The average age in our series was 26.6 years. It is lower than those reported by Diallo [11] in Mali and Adjahoto [12] in Togo which were 28.3 years and 29 years respectively. But it is close to that reported by Dembélé [10] in Burkina Faso which was 26.2 years.

Parity

In our study the average parity was 2.7. Our rate is identical to that reported by Diallo [11] in Mali, which was 2.69; it is higher than that reported by Adjahoto [12] in Togo, which was 1.9. But on the other hand it is lower than that reported by Dembélé [10] in Burkina Faso and which was 4.3

Clinical aspects

Mode of admission

In our series 85% of the patients came on their own. This rate is higher than those reported by Diallo [11] in Mali, Diadhiou [9] in Senegal and Yanogo [13] in Burkina Faso which were respectively 71.7%, 54% and 50.7%.
Pregnancy follow-up

Among the parturients listed during our study period, 57.5% of the workforce had performed at least 3 CPNs.

Our rate is lower than those reported by Sepou [1] in Bangui, Yanogo [13] in Burkina Faso, Diallo [11] in Mali and Diadhiou [9] in Senegal which were respectively 90.4%, 85.2%, 68.9% and 62.9%,

Birth interval

In our series, the birth interval was greater than 24 months in 94.5% of cases. It is close to that reported by Yanogo [15] in Burkina Faso which was 93.3% and lower than those reported by Diadhiou [9] in Senegal and Diallo [11] in Mali which were respectively 97.2% and 98 .3%.

Term of pregnancy

In our study, the pregnancy was at term in 91.74% of cases. This rate is close to that reported by Diadhiou [9] in Senegal which was 93.1% but lower than those reported by Diallo [11] in Mali and Adjahoto [12] in Togo which were respectively 87% and 83, 2%.

Obstetric examination data

Trial of labor

Indicated in 109 parturients, we obtained a success rate of 99.08%. This rate is higher than those reported by Abassi [7] in Morocco, Adjahoto [12] in Togo and Dembélé [10] in Burkina Faso which were respectively 84.5%, 71.6% and 70.6%.

Mode of expulsion

Instrumental extraction (vacuum) was used in 13.7% in our study. This rate is lower than those reported by Diadhiou [9] in Dakar and Abassi [7] in Casablanca, which were 37.2% and 47.6% respectively.

Working time

In our series, the average duration of labor was 4 hours 25 minutes. It is higher than that reported by Diadhiou [9] in Senegal which was 3 hours 10 minutes. But it is lower than those reported by Diallo [11] in Mali, El Mansouri [14] in Casablanca and Tshilombo [15], which were respectively 6 hours 31 minutes and 6 hours.

In developed countries, according to Perrotin [16] and Camus [17] the average duration of work was 3h30 min and 6h15 min

In most African series, caution is observed in the management of the uterine test and most often, oxytocin is not used.

Prognosis
Maternal prognosis
Maternal morbidity
In our series 22.85% of parturients had presented a postpartum haemorrhage. This result is close to that reported by Yanogo [15] in Burkina Faso, which was 21.6%. Our series we did not note uterine rupture, Adjahoto [12] (Togo), Diadhiou[9] (Senegal) and Dembélé [10] (Burkina Faso) had reported cases of uterine rupture respectively 1.9%, 3% and 3.1%.

Maternal mortality
In our study we did not record any maternal deaths. This has also been reported by other African authors such as Sepou [18] in Bangui, Dembélé [10] in Burkina Faso, Adjahoto [12] in Togo and Abassi [7] in Morocco.

Perinatal prognosis
Mortality
The fetal mortality rate was 2.70% in our study. This rate is lower than those reported by Diadhiou [9] in Senegal and Aboulfalah[19] in Morocco which were 2.2% and 1.3% respectively.

Although prospective, our study has some limitations such as:
-the lack of information on the old scar and the postoperative course
-the duration of labour, which could not be precisely specified in patients whose labor had started outside the CHU.

Conclusion:-
At the end of our study, it appears that a uni-scarred uterus after segmental cesarean must be considered as a normal uterus allowing the woman to give birth and not exposing her to a particular risk of uterine rupture; but the emphasis must be placed on rigorous clinical and paraclinical monitoring. In addition, it is the most effective way to reduce the overall rate of iterative caesareans as well as in terms of health savings.

The low mortality and morbidity rates and the success of 99.08% found in our series, as in black Africa, plead in favor of natural delivery after a uterine scar by caesarean section.

Conflicts of interest
The authors declare no conflict of interest.

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