

Epidemiological and Prognostic Aspects of Breech Deliveries at the Mother and Child University Hospital in N'Djamena

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Abstract

Introduction: Breech presentation is a longitudinal presentation in which the fetus pelvic is the first to enter the upper maternal pelvic excavation. **Objective:** contribute to improving the management of breech deliveries. **Patients and Method:** This was a descriptive cross-sectional study conducted in the Gynecology-Obstetrics Department of the N'Djamena Mother and Child University Hospital (NMCUH) from July 2022 to June 2024, (*i.e.* over a period of two (02) years) about breech delivery. All admitted for delivery with fetus in breech presentation were included. Patients and newborns were followed after the delivery, aiming to diagnose any complications. Studied variables were: epidemiological, clinical and therapeutical. Data were analyzed and collected using cases of breech presentation deliveries were studied. Data entry and analysis were performed using Word 2017 and Sphinx 5e software. **Results:** During the study a period, we recorded 107 patients with breech delivered among 6,257 deliveries, giving a frequency of 1.7%. The age group from 20 to 30 accounted for 55.2% and 43% were primigravida. The majority of patients had not attended prenatal cares. The delivery was performed by vagina in **61.3%** and fetus with complete breech presentation accounted for 78.5%. The Bracht maneuver was the most commonly used obstetric maneuver with 57.6%. No maternal deaths were recorded, but there were 3.3% stillbirths. **Conclusion:** The practice of vaginal breech delivery is our most common activity in N'Djamena Mother and Child University Hospital. Main maternal characteristics were: primiparous, no attending prenatal cares and delivery majority by vagina. Thus, sensitization aiming to

improve prenatal care is necessary to diagnose early some complications.

Keywords

Breech Presentation Delivery, Prognosis NMCUH

1. Introduction

Breech presentation is a complex obstetric condition in which the fetus is positioned with its buttocks for delivery [1]. This type of presentation represents approximately 3% to 5% birth, and its frequency varies from one country to another, It can reach 10% in cases of multiple pregnancies or premature births. In Africa, the prevalence ranges from 1.52% to 5.4%, reflecting diverse socio-economic contexts and maternal care practices [2].

Breech delivery is often associated with increased risks for both mother and child, particularly due to potential complications such as neonatal asphyxia, maternal soft tissue injuries and higher caesarean section rates. Current recommendations on the management of breech deliveries emphasize the importance of careful assessment of risk factors, the experience of the birth attendant and specific clinical circumstances [3].

Despite these challenges, numerous studies suggest that with an accurate approach, vaginal delivery can be safely considered, particularly for complete presentations. However, previous research conducted in Chad reveals the outcomes and complications associated with breech deliveries.

This study therefore aims to analyze the epidemiological aspect and prognose of breech deliveries

2. Patients and Method

This was a descriptive survey covering a period of 2 years from July 1st 2022 to June 31st 2024 about epidemiological aspect and prognose of breech delivery in N'djamena Mother and Child university hospital (NMCUH). Studied population included all consented women who gave birth in breech presentation in NMCUH. These patients were followed during delivery and after aiming to record any complications.

Studied variables were epidemiological; clinic and those linked the prognose. The data was extracted from the medical files of patients in labor using a standardized assessment grid.

This grid was designed to contain key information, including:

Sociodemographic data: age, occupation, marital status, level of education.

Obstetric characteristics: medical history, antenatal care, mode of admission, fetal presentation, mode of delivery, duration of labor.

Neonatal outcomes: birth weight, sex, Apgar score, congenital malformations.

Vagina delivered is accepted when: fetal weight less than 3.800g, absence of

scared uterus, absence of fetal asphyxia, and mother pathology that can cause to maternal of fetal complication.

Postnatal maternal status: any complications, length of hospital period

The data was collected and analyzed using Sphinx version 5.0 software and Microsoft Word 2017.

3. Results

3.1. Frequency

We recorded 107 cases of patients who were delivered by breech presentation among 6,257 deliveries giving a 1.7%.

3.2. Sociodemographic Characteristics of Pregnant Women

The age group from 20 to 30 years presented 55.2%. The mean age was 29.2 ± 2.1 years with extremes of 18 and 40 years (**Table 1**).

Profession: Housewives accounted for 50.4% followed by salers with 32.7% (**Table 1**).

Marital status: patients were married in 79.4%.

Level of education: in 56.1% patients were no schooled (**Table 1**).

Table 1. Sociodemographic characteristics.

Sociodemographic characteristics	n	%
Age		
< 20	30	28
20 - 30	59	55.2
>30	18	16.8
Profession		
Housewife	54	50.4
Pupil/Student	13	12.1
Saler	35	32.7
Civil servant	5	04.8
Marital status		
Single	11	10.3
Married	85	79.4
Widowed	11	10.3
Level of education		
Primary	13	12.1
Secondary	22	22.6
University	12	11.2
No schooled	60	56.1

3.3. Clinical Data

Among the women in labor, 43% were primiparous. Surgical history revealed 14.1% of cesarean section. In 43.9%, patients had not attended prenatal cares (**Table 2**).

Table 2. Medical history.

Antecedents	n	%
Gestation		
Primigravida	21	19.8
Paucigravida	52	48.6
Multigravida	34	31.8
Parity		
Nulliparous	21	19.6
Primiparous	46	43
Pauciparous	17	15.9
Multiparous	23	21.5
Surgical history		
Caesarean section	1	14.1
Myomectomy	9	8.4
Appendectomy	4	03.7
Prenatal cares		
0	47	43.9
1 to 3	41	38.3
≥4	19	17.8

3.4. Gestational Age and Admission Mode

In 73.8% the gestational term was between 37 to 42 weeks and 63.6% were referred. Patients referred accounted for 63.6% (**Table 3**).

Table 3. Gestational age and mode of admission.

Gestational and admission mode	n	%
Gestational age		
< 37 weeks	25	23,4
37 - 42 weeks	79	73,8
>42 weeks	03	02,8
Admission mode		
No referred	40	36,4
Referred	67	63,6

3.5. Characteristics of Childbirth

Complete breech presentation accounted for 78.5%. Delivery was by vagina in 61.3% and Bracht Maneuver was performed in 35.5% (**Table 4**).

Table 4. Characteristics of childbirth.

Characteristics of childbirth	n	%
Type of presentation		
Complete breech	84	78.5
Incomplete breech	23	21.5
Mode of delivery		
Vaginal delivery	66	61.3
Caesarean section	41	38.7
Obstetrical Maneuver Bracht		
Mauriceau	20	18.6
Lovset	9	7.4

3.6. Newborns

Condition at birth: Among newborns, 71.9% were alive and healthy, while 3.3% were stillborn. The APGAR score was ≥ 7 for 73.8% ($n = 79$) at the first minute. The average fetal weight was $2.670 \text{ g} \pm 260 \text{ g}$.

3.7. Postpartum

In 76.6% the postpartum was normal, 12.1% complications were recorded consisted essentially by anemia, linked with obstetrics complication like postpartum hemorrhage and abruption placenta. No maternal death was recorded.

4. Discussion

The frequency of breech delivery was 1.7%. This result is similar to those of Gannard [3] and Mayi-Tsonga [4], who reported respectively 1.8% and 1.7%. Our findings confirm Merger [5] assertion giving a frequency of 1 to 3 % of total delivery.

According to age, we noted that the age group from 20 to 30 accounted for 55.2% (Table 1). This can be explained by the fact that patients are young than sexually active. Literature data showed that for breech presentation, factors such as the uterus form, the primiparous and multiparous are incriminated. This is true in this study with 43% of primiparous. In the same was The Niang *et al.* [6], observed that age and parity influence the outcomes of breech deliveries. Out of these factors, the surveillance of pregnancy is necessary aiming to diagnose the presentation and allowing it management. In this study, we noted that 43,9% hadn't attended prenatal cares. According to the previous data in Chad [7], factors like level of schooling can improve the attendance of prenatal cares. We reported 56,1% of no-schooled patients. Concerning the delivery mode, some authors showed that there are factors like; fetal term, the presence of scared uterus, which can lead to vagina delivery. Out of obstetrical complications, the delivery is often performed by vagina route; In this study, the vaginal delivery was the most common mode with 61.7%. This conforms current recommendations favoring vaginal delivery when appropriate criteria are met.

When the vagina delivery is accepted, some obstetrical maneuvers can be performed. In the same idea, previously Faye *et al.* [8] and Louise [9] *et al.*, showed that appropriate obstetric maneuvers are essential for reducing the caesarean section rate.

Among the obstetrics maneuvers, we noticed that the Bracht maneuver, was used in 35.5%. This maneuver is often recommended for its safety and effectiveness in managing breech presentations. Our findings confirmed those of Koné [10] in Mali in 2015 and Stephan *et al.* [11], who reported a high proportion of Bracht maneuver respectively in 63.3% and 30%.

When the delivery is performed in good situation, fetal condition is also good, thus we noted 71.9% of alive fetus with good health. However, the rate of stillbirth was 3.3% . This rate is lower than those of Burgos *et al.* [12] in 2016 in Spain and

Elsa [13], that didn't record neonatal deaths. This highlights the need for close monitoring during labor and delivery, particularly in cases of breech presentation, which carry a higher risk of fetal complications.

In postpartum period the course was simple with simple in 76.6% of patients in good health. This result is comparable to that of Mukuku *et al* [14] in 2014 in the Democratic Republic of Congo and Paul [15], who reported a high proportion of patients without any complication. However, anemia was noted in 12.1% which can be linked with the fact that 43.9% hadn't attended prenatal cares.

5. Conclusion

Breech delivery is the most common activity in N'djamena Mother and Child University Hospital. Main maternal characteristics were: primiparous, no attending prenatal cares et delivery majority by vagina. Thus, sensitization aiming to improve prenatal care is necessary aiming to diagnose early some complications. Beyond sensitization of the population, the improvement of factors like condition of delivery, and the quality of cares are useful.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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