

Delivery Complications of the Single Fat Large Foetus (Macrosomia) with Teenagers at the Obstetrics and Gynaecology Department of the Donka National Hospital, University Teaching Hospital (CHU) of Conakry, Guinea

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Abstract

Objectives: The objectives of this work were to: 1) Calculate the delivery frequency of the large foetus with complications to teenagers; 2) Describe the epidemiological profile of these teenagers; 3) Identify the risk factors of the large foetus and to establish the maternal prognosis and foetus. **Methodology:** This was a prospective descriptive 6-month study performed at the Obstetrics and Gynaecology Department of the Donka National Hospital, CHU of Conakry, Guinea. We chose a regular amplitude of one year and we got the following slices: 16 years, 17 years, 18 years. **Results:** We recorded 14.23% (801/5629) teenage deliveries of which 9.4% (75/801) deliveries are single fat fetus and 93.3% (70/75) of them developed complications. The epidemiological profile was that of an 18 years old teenager (61.4%), single (58.6%), professional (44.3%), out of school (57.1%), primiparous (68.6%), having performed 3 - 4 CPN (47.1%), coming from home (65.7%) and carrying a full term pregnancy (100%) and having delivered by high way medical assistance (52.9%). Risk factors were dominated by the male foetus (75.7%). Maternal morbidity was dominated by cervico-perineal tears 28.6%. The recorded maternal mortality was 4.3%. The 3 cases of maternal deaths were caused by the hemorrhage. The APGAR score at the first minute was in 51.4% between 4 and 6; at the 5th minute in 80% between 7 and 10. The most common foetal

complication was acute foetal distress 44.3%. Foetal lethality was 12.8%. **Conclusion:** Here, we demonstrated the teenage pregnancy and macrosomia in this area. We did not show how we can improve this situation based on the data; however, describing this situation may be of use as a fundamental data to make a better antenatal checkup and teenager-education.

Keywords

Teenager, Large Foetus, Complications

1. Introduction

The WHO defines adolescence, as the age ranging from 10 to 19 years. It also distinguishes between the first adolescence, which ranges from 10 to 14 years old and the second adolescence, which goes from 15 to 19 years old [1].

The large foetus fat (GF) is defined by a birth weight greater than or equal to 4000 g. It is a birth weight greater than or equal to the 90th percentile of the reference curves for a given population [2]. This excess of volume concerns the whole body and not just one of its parts [3].

In Western countries, teenage pregnancies are considered a public health problem, whereas in developing countries early childbearing is socially and culturally accepted [4]. Its frequency varies by country: 11.32% at the Chicago Hospital in the USA, 14.71% in French Guiana. In France, the number of teenage births has been steadily decreasing since 1976, concomitant with the Veil Act legalizing the voluntary termination of pregnancy in 1975 and the right to free and anonymous contraception in 1974. This figure rose from 3.6% between 1976 and 1992. For 10 years, it has stabilized around 0.85 [3].

In Guinea, studies have shown frequencies of 16% in 2001 at the Donka University Teaching Hospital and 12.25% in 1994 at Ignace Deen University Teaching Hospital [5].

In France, in 2003, the frequency of children with a birth weight greater than 4000 g was 6.1% [3]; in Canada, 8.7% [6], 7.11% in Tunisia [7], 4.8% in the Central African Republic [8]. In Niger [9], this frequency is 10.9% and 16.96% in Mali [10] and 83% in Coyah (Guinea) in 2004 [5].

In Senegal, Badjic A *et al.* reported a maternal morbidity of 30.4%; foetal morbidity of 39.57% and stillbirth of 3.84% in Dakar [11].

Objectives:

The objectives of this work were to:

- Calculate the delivery frequency of the large foetus with complications to teenagers;
- Describe the epidemiological profile of these teenagers;
- Identify the risk factors of the large foetus and to establish the maternal prognosis and foetus.

2. Methodology

This was a prospective descriptive 06-month study performed at the Obstetrics and Gynaecology Department of the Donka National Hospital, CHU of Conakry. We chose a regular amplitude of one year and we got the following slices: 16 years, 17 years, 18 years.

Included in the study were all teenage girls who gave birth to a large foetus with complications in the Department were included in the study and teenage girls discharged into the Department for complications of single foetal delivery.

Not included in our study were all teenage girls who gave birth to a large, uncomplicated foetus, were not included in our study adults who gave birth to large foetuses with or without complications, and all teenagers who gave birth to a foetus weighing less than 4000 g.

We conducted an exhaustive recruitment of all patients received during the study period meeting the selection criteria.

The variables studied were: epidemiological (age, occupation, educational level, marital status, parity, provenance, prenatal follow-up, gestational age), clinical (risk factors, mode of delivery, morbidity and maternal mortality, morbidity and foetal mortality).

3. Results

Results: We recorded 14.23% (801/5629) teenage deliveries of which 9.4% (75/801) deliveries of the single large foetus of which 93.3% (70/75) developed complications.

EPIDEMIOLOGY:

- Age: 18-year-old girls were the most represented with a frequency of 61.4%.
- Level of education: The largest number of teenage girls was out of school 57.1%.
- Marital status: Single teenage girls (58.6%) were the most affected status.
- Occupation: teenage girls exercising a liberal function were the most concerned with 44.3%.
- Parity: The primipares were the most represented, 68.6%.
- Pregnancy follow-up: The study of the follow-up of the pregnancy made it possible to note that the teenagers having carried out 3 - 4 consultations were the most numerous 47.1%.
- Origin: More than half of the parturient of our study came directly from their home or 65.7%.

Gestational age: All teenage girls were carriers of a term pregnancy. The average gestational age in our series was 39.3 SA with extremes of 37 and 41 SA.

Clinical:

- Hard delivery: The highest birth rate was 52.9%.
- Risk factors: The male sex was the risk factor for the occurrence of the large foetus, 75.7%, followed by obesity with a frequency of 22.9%.

Maternal morbidity: The complications were dominated by vulvo-perineal

tears followed by haemorrhages of delivery, respectively 28.6% and 27.1% of cases.

- Maternal lethality: We recorded 3 cases of death, *i.e.* a frequency of 4.3%.
- The APGAR score: The APGAR score at the first minute was in 51.4% between 4 and 6; in the 5th minute in 80% between 7 and 10.

Foetal morbidity: The most common foetal complication was acute foetal distress (44.3%), followed by brachial plexus paralysis (42.9%).

- Foetal mortality: We recorded 4 cases of foetal deaths in utero, 5 cases of early neonatal deaths or a frequency of 12.8% of perinatal deaths.

4. Discussion

Frequency: We recorded 14.23% (801/5629) teenage deliveries of which 9.4% (75/801) deliveries of the single large foetus of which 93.3% (70/75) developed complications. This result is intermediate between those reported by NGUEUMBI E *et al.* [8] (Central African Republic) in 2005 and NAYAMA M *et al.* [9] in Niger in 2007 with respectively 30.3% and 10.9% of teenage birth. This high frequency could be explained by early marriages and the occurrence of unwanted pregnancies in most teenage girls.

Epidemiology:

- **Age:** The 18 year-old girls were the most represented with a frequency of 61.4%. This result is superimposable to that reported by HAMADA H *et al.* [12] in 2004 in Rabat (Morocco) who found an average age of 17 years and a frequency of 58.1% of patients aged 18 years. These results indicate early sexual intercourse in girls as shown by several studies including those of SEPOU A *et al.* [13] in Central African Republic in 2004, indicating 16.4 years as the average age at which the first sexual activity occurs among girls.
- **Learning level:** The largest number of adolescent girls was out of school 57.1%. This result is higher than reported by HAMADA H *et al.* [12] in 2004 in Rabat (Morocco) 48.3% were illiterate. The easy handling of this social layer and especially the lack of information on planning methods could explain this high frequency.
- **Marital status:** Single teenage girls (58.6%) were the most affected status. This result is inferior to that reported by ILOKI L *et al.* [14] in 2004 in Congo Brazzaville indicating 84% were single. Early sexual intercourse and lack of information on family planning methods may be the reason for this high single rate.
- **Occupation:** Adolescent women in liberal professions were the most affected at 44.3%. The literature often reports that the rate of early termination of schooling among teenage mothers remains high [5], which would be the basis of high rate of liberal professions.
- **Parity:** Primiparous women were the most represented at 68.6%. This rate is almost double according to that reported by TRAORE B *et al.* [10] in Mali in 2010, *i.e.* 35.8%.

- **Pregnancy follow-up:** The study of the follow-up of the pregnancy renders it possible to note that the teenagers having carried out 3 - 4 consultations were the most numerous 47.1%. Our data are superimposable with those of NAYAMA M *et al.* [9] in Niger in 2007, which indicated that adolescent girls who gave birth to a large fetus performed three to one or three ANC in 51.5% of cases. Most of these gestants were not followed by qualified staff and did not have an ultrasound assessment that could highlight the existence of macrosomia.
- **Origin:** More than half of the parturient of our study came directly from their home or 65.7%. TRAORE B *et al.* [10] report that 53.8% of adolescent girls who gave birth were evacuees.
- **Gender age:** All teenage girls had full term pregnancy (100%). The mean gestational age in our series was 39.3 SA with extremes of 37 and 41 SA. This result is similar to that reported by NAYAMA M *et al.* [9] in Niger, *i.e.* 91.4% of patients whose gestational age was between 37 and 41 weeks.

CLINICAL:

- **Hard delivery:** The medically assisted delivery was the most found with 52.9%. This result is superimposable to that of TRAORE B *et al.* in Mali [10] or 59.2% deliveries by cesarean section. Feto-pelvic disproportions related to excess fetal weight explain the high rate of caesarean section.
- **Risk factors:** The male sex was the risk factor for the occurrence of the largest fetus, *i.e.* 75.7% followed by obesity with a frequency of 22.9%. This result is close to those recorded by BADJI CA *et al.* [11] and BEN HAMID R. *et al.* [7] with respectively 52.2% and 66.7% of cases.

These results corroborated the data from the literature that report that the sex ratio for macrosomia is 2/3 for male fetuses compared to 1/3 for female fetuses [10].

Maternal morbidity: The complications were dominated by vulvo-perineal tears followed by haemorrhages from delivery, respectively 28.6% and 27.1% of cases. These results are superior to those of BADJI CA *et al.* [11] 4.77% haemorrhage of the delivery and BEN HAMID R *et al.* [7] 1.5% vulvo-perineal lesion. However, they are aligned with literature that maternal complications of macrosome delivery are represented by perineal lesions and haemorrhage of delivery [10].

Maternal lethality: We recorded 3 deaths, a frequency of 4.3%. The delay in care related to socio-economic, cultural conditions of some patients and also the level of qualification of providers would be the causes of this maternal lethality.

- **The APGAR score:** The APGAR score at the first minute was in 51.4% between 4 and 6; at the 5th minute in 80% between 7 and 10. By contrast HAMADA H *et al.* [12] reported in Morocco an APGAR greater than 7 at the first minute in 96.8%. The lack of adequate equipment and the delay in management could probably reflect this state of affairs.

Fetal morbidity: The most frequent fetal complication was acute fetal distress

44.3% of cases followed by brachial plexus paralysis 42.9%. This result is superior to that of TOUHAMI EF *et al.* [15]. 2012 in Morocco who reported as complications respiratory distress in 5.4% and paralysis of the brachial plexus in 4.3% of cases. The delay in the care, the lack of control of the laboring maneuvers by some providers and the prolonged work could explain this phenomenon.

- **Fetal mortality:** We recorded 4 cases of fetal deaths in utero, 5 cases of early neonatal deaths or a frequency of 12.8% of perinatal deaths.

5. Conclusion

Here, we demonstrated the teenage pregnancy and macrosomia in this area. We did not show how we can improve this situation based on the data; however, describing this situation may be of use as a fundamental data to make a better antenatal checkup and teenager-education.

Conflicts of Interest

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

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