

Cesarean sections in the Thiadiaye health district 2015-2016

Abstract

Objective: To evaluate the follow-up of pregnancy in patients with caesarean deliveries, the time taken to perform the procedure and the postoperative prognosis.

Material and methods: This was a retrospective, descriptive and analytical study conducted over a period of two years at the Maternity Hospital of the health district. Data were collected from clinical records, delivery room and operating theatre registers. The variables studied were the epidemiological characteristics of the patients, the follow-up of the pregnancy, the indications for caesarean section and the maternal and neonatal outcome. The data were entered and analysed using SPHINX software.

Results: During this period we performed 274 caesarean sections out of a total number of 7025 deliveries, i.e. a caesarean section rate of 3.9%. The epidemiological profile of the patients was that of a young woman, with an average age of 27.4 years. The majority were married (98.1%). The socio-economic level was low (97.8%) and they were primiparous (33.2%). As regards pregnancy follow-up, 34.3% had had 3 antenatal consultations and 31.7% had had 4 antenatal consultations. Hypertension was observed in 25.9% of pregnancies. The standard blood test was performed in 25.2% of patients. For obstetrical ultrasound, 52.2% of patients had undergone at least one ultrasound examination. The majority of patients (80%) had their first caesarean section and 14% had their second. These were emergency caesareans in 82.1%. They were mandatory indications in 49%, of prudence in 30% and of necessity in 21%. The extraction time was less than 30 minutes in 41 cases and between 30 and 60 minutes in 132 cases. Post-operative complications were dominated by vasculo-renal syndromes. Perinatal mortality was 28.6‰. The contraceptive rate after caesarean section was 98.1% during this period.

Conclusion: The management of deliveries in rural areas is often difficult, prenatal consultations are often of poor quality, the management of caesarean sections performed with rather long delays.

Keywords: pregnancy follow-up - Caesarean section - delay in execution - maternal-fetal prognosis

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Introduction

For nearly 30 years, the international health community has considered that the ideal caesarean section rate is between 10% and 15%.¹ As caesarean section is the most common obstetrical activity performed in the Thiadiaye health district, we wanted to evaluate its practice in the emergency obstetrical care unit. The objective was to draw up an epidemiological profile of the patients, to specify the indications for caesarean sections, the time taken to perform them and the maternal-fetal prognosis.

Materials and methods

This was a retrospective and descriptive study from 1 January 2015 to 31 December 2016. It took place in the health centre of the Thiadiaye health district located in the department of Mbour which, in addition to the health centre, included 9 public health posts and 2 private health posts. The staff consisted of a gynaecologist-obstetrician, a technician in anaesthesia and resuscitation, an assistant operator, a nurse and a ward boy. The operating theatre is mainly dedicated to emergency obstetric care (EmOC). The EmOC block was operational 4 ½ days out of 7. Caesarean section was the main surgical procedure in obstetrics.

All patients who had a caesarean section during this period were included. The parameters studied were socio-demographic

characteristics, clinical data, indications for caesarean section, time to completion, postoperative follow-up and post-caesarean contraception. The data were analysed using Sphinx software.

Results

Frequency

During this period we performed 274 caesarean sections out of a total number of 7025 deliveries, i.e. a caesarean section rate of 3.9%.

Epidemiology

The average age of the women was 27.4 years, with extremes of 15 and 45 years. The majority were married (98.1%). The socio-economic level was low (97.8%) and they were primiparous (33.2%).

Pregnancy follow-up

Regarding pregnancy follow-up, 94 patients (34.3%) had had 3 prenatal consultations and 87 (31.7%) had had 4 prenatal consultations. Hypertension was observed in 25.9% of pregnancies. The standard blood test consisted of rhesus blood grouping, blood count, Emmel test, fasting blood sugar, hepatitis B virus antigen test and syphilitic and human immunodeficiency virus serology. Only 25.2% had done so and 74.8% had not been able to do so. For obstetrical ultrasound, 52.2% of the patients had had at least one ultrasound examination during their pregnancy.

Caesarean section data

The majority of patients, 80%, had just given birth by caesarean section for the first time and in 14% they had just had their second caesarean section. Figure 1 illustrates this distribution of caesarean sections.

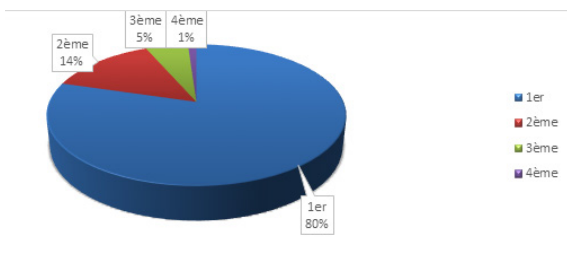


Figure 1 Ranking of caesarean sections.

According to the degree of urgency, the indications were divided into emergency caesarean sections in 82.1% of cases and scheduled caesarean sections in the remaining cases. Figure 2 shows the distribution of caesarean sections according to the degree of urgency.

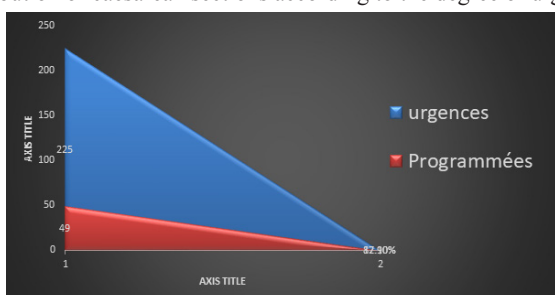


Figure 2 Type of caesarean section.

The indications for Caesarean section by cause were mixed (maternal and fetal) in 44.1%, maternal in 33.9% and fetal in 18.6%. Figure 3 provides information on the indications for Caesarean section according to cause.

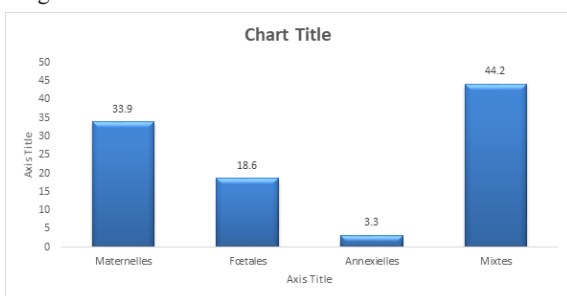


Figure 3 Indications for caesarean section by cause.

Class of caesarean section

They were mandatory indications in 49%, precautionary in 30% and necessity in 21% as shown in Figure 4.

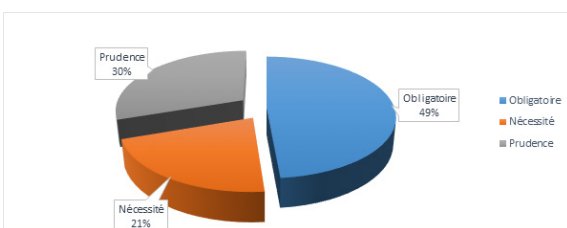


Figure 4 Indications for Caesarean section by class.

Fetal extraction time

Fetal extraction time was less than 30 minutes in 41 cases and between 30 and 60 minutes in 132 cases as shown in Figure 5.

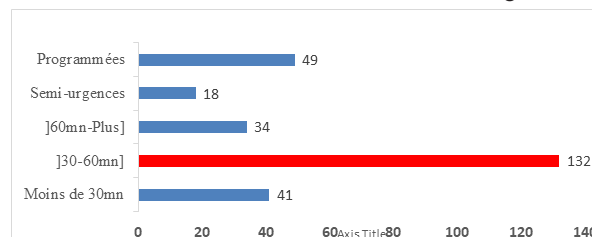


Figure 5 Time to fetal extraction after indication for caesarean section.

Postoperative complications

Post-operative complications were dominated by vasculo-renal syndromes as shown in Figure 6. There was one case of maternal death, which was a vaginal delivery. No deaths were recorded in caesarean sections. The perinatal mortality was 28.6%.

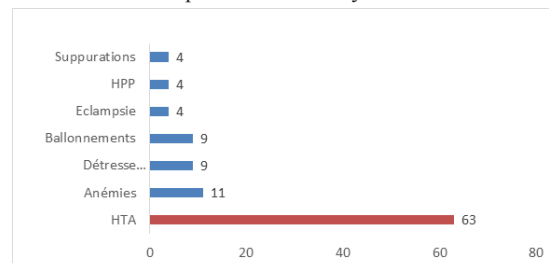


Figure 6 Post-operative complications.

Post-operative contraception

The contraceptive rate after caesarean section was 98.1% during this period.

Discussion

Frequency

Our caesarean section rate was very low compared to the recommendations of the World Health Organization (WHO) which gives an ideal caesarean section rate of between 10% and 15% in 1985 in Fortaleza, Brazil.¹ This may be due to the fact that the operating theatre was not functional 7 days a week. However, this rate varies from one facility to another depending on the level of technical facilities, and is comparable to the national rate of 4.4% with disparities between regions and hospitals ranging from 21 to 50%.² Other low rates were also found in Burkina Faso where the caesarean delivery rate was 2.3%.³

In 2014 the caesarean section rate in Brazil was 52%.⁴ In 2015 the national caesarean section rates were 46.8%, 30.2%, 20.8%, 15.5% in Mexico, Germany, France and the Netherlands respectively.⁵

Dumont and Brugeilles in their studies found that the caesarean section rate varied between 1% and 58% worldwide in 2015. It is particularly low, below 5%, in less developed countries in sub-Saharan Africa such as Mali (2%), Nigeria (3%) and Congo (5%). In contrast, it is over 30% in European countries such as Cyprus (57%), Georgia (41%), Romania (40%) and Italy (35%). It is also very high in Latin America, which has a long history of Caesarean deliveries. The Dominican Republic leads the way with 58%, followed by Brazil (55%), Chile (50%) and Ecuador (49%) in particular.^{6,7}

This difference in caesarean section rates is probably related to the level of development of the country, which influences the availability of resources.

Age

The epidemiological profile of our patients was that of young women, with an average age of 27.4 years, with extremes of 15 and 45 years. Most of them were married (98.1%).

The average age of patients who underwent caesarean section was 27.9±7.2 years according to Mbomb in Congo.⁸ For Sidibé in Mali, the average age was 26.12±6.6 years with extremes of 14 years and 44 years married in 98.56%.⁹ In Mauritania, Abdelkader found that the average age of patients was 28.17 +/- 6.16 years with extremes ranging from 14 to 45 years.¹⁰

These similar age averages were typical of sub-Saharan Africa.

Pregnancy follow-up

Of the patients studied, 94 or 34.3% had made 3 antenatal visits and 87 or 31.7% had made 4 antenatal visits. Hypertension was associated with pregnancy in 25.9% of cases.

Only 25.2% had been able to have a blood test. This standard blood test consisted of: rhesus blood grouping, blood count, Emmel test, fasting blood sugar, hepatitis B virus antigen test and syphilis and human immunodeficiency virus serology. Three quarters of the patients (74.8%) had not undergone the recommended standard check-up despite having had at least two prenatal consultations. This situation did not meet the concept of refocused antenatal consultations.

In a study on caesarean section in Mali, Traoré found a rate of 52.2% for prenatal consultations <4 and 24.8% for prenatal consultations ≥4.¹¹

Kuate in Mali, in his thesis on the elements of the focused prenatal consultation, found that the request for examinations was made according to the norms in 68.6% of cases.¹² With regard to obstetrical ultrasound, half of them (52.2%) were able to do it at least once. The demand for blood tests and ultrasound varied between 31% and 65% in the Tiembré study in Côte d'Ivoire.¹³

In the Saizonou study in Benin, the demand for diagnostic tests between the first antenatal visit and the 2nd and 3rd antenatal visits ranged from 81.4% to 88.9%.¹⁴

This does not correspond to the recommendations during pregnancy follow-up either.¹⁵

Indications for caesarean section

In our study, the majority of patients (80%) underwent their first caesarean section and their second caesarean section in 14%. They were compulsory in 49%, of prudence in 30% and of necessity in 21%.

For Niang, on the other hand, in Dakar, the indications were dominated by cautionary caesarean sections (44.6%), followed by obligatory caesarean sections (38.4%) and necessity caesarean sections (17%).¹⁶

In Mali, Traoré found for maternal indications 25.1%, fetomaternal 35.9% and feto-annexal 39%.¹¹

Type of caesarean section

Regarding the type of caesarean section, 82.1% were emergency and 17.9% scheduled.

In Dakar, according to Koulimaya-Gombet's study, caesarean delivery was performed in 71.4% of cases with 245 emergency caesareans and 93 scheduled caesareans.¹⁷ In Mali, Traoré S¹¹ found that they were emergency in 87.1%, and prophylactic in 12.9%. In Cameroon, emergency caesarean sections were still the most common in 2007 (68.1%) and 67.7% in 2017.¹⁸ In Mauritania, Abdelkader found that of the 630 caesarean sections, 389 were performed as emergencies or 61.7% and 241 were scheduled or 38.3%. Caesarean section was scheduled in 38.8% of our parturients and performed as an emergency in 61.7%.¹⁰

Delay between indication for caesarean section and fetal extraction

Regarding the delay between fetal extraction and the time when the indication for caesarean section was given, our results were as follows: 19.8% before 30 minutes and 65.3% between 30 and 60 minutes.

In the study by Niang in Dakar, the decision-extraction time was greater than one hour in 63% of emergency caesarean sections, thus highlighting the problems of organisation and availability of medical consumables in the operating theatre.¹⁶

In Burkina Faso, Der found that 59% of emergency caesarean sections took less than 30 minutes in 2010. The average delay between the indication and the caesarean section was 55 minutes in cases of extreme urgency. The reasons for these delays were essentially the lack of rapid acquisition of products for the operation and the occupation of the operating theatre.¹⁹

Fouelifak in his study had the average delay in performing emergency caesarean sections of 224.36 ± 173.30 minutes (≈3 hours and 45 minutes) with extremes of 15 and 864 minutes.²⁰

For Sayegh, this mean decision-to-birth time was 39.5 minutes in the first group and 55.9 minutes in the second group. This decision-to-birth time was significantly influenced by the time the patient was in the operating theatre.²¹

There is a real challenge in reducing this delay in emergency caesarean section as it can negatively influence maternal-fetal morbidity.

Post-operative complications

The most common complications encountered in our study were arterial hypertension, followed by anaemia and respiratory distress in the newborn.

In Mali, Traoré found that anaemia represented a rate of 51.8% and arterial hypertension a rate of 36.4%.¹¹

In Mauritania, Abdelkader found that 25 cases of intraoperative complications in his study consisted of haemorrhagic complications (64%) and respiratory distress (30.48%).

During the period of his study, 1404 caesarean sections were performed for a total of 4889 deliveries (28.71%).²² Bleeding complications were dominated by uterine atony observed in 70.5% of caesarean sections. For Sidibé in Mali, it was more anaemia with a percentage of 66.66%.

Maternal and neonatal mortality

During our study, 1 case of maternal death, i.e. 0.01% of the total number of deliveries and zero percent of the total number of caesarean sections, was recorded. On the other hand, perinatal mortality was

28.6%. In Senegal, the neonatal mortality rate is non-negligible and hovers around 35%.²³

Niang in his study had a maternal case fatality rate that was 0.17% and perinatal mortality at 55.6 per 1000 live births.

For Koulimaya-Gombet, also in Dakar, maternal mortality was 0.4% and perinatal mortality was 28.2% live births.

According to Méda in Burkina,²⁴ intra-hospital maternal lethality in per and post-caesarean section was 0.81%. The intra-hospital neonatal lethality in intra- and post-caesarean section was 11.69%. Dumont in his study found that free caesarean section could help to improve mortality.²⁵

Contraception rates

During this period, the contraceptive rate was 98.1% with a predominance of long-term methods with implants.

According to Blangis [26] in his study, the post-natal contraceptive rate was 21.5%.

This high rate in our series was related to the counselling that was carried out by all the operating theatre staff and the midwives.

Conclusion

The management of deliveries in rural areas is often difficult, prenatal consultations are often of poor quality, the management of caesarean sections carried out with fairly long delays in relation to the almost permanent difficulties of the operating theatre: on personal and material resources, especially blood products and anaesthetics, forcing avoidable evacuations. Hence the interest in including in the DHS studies the concept of the lowest risk caesarean section with the availability of equipment and personnel (Figure 7) (Figure 8).

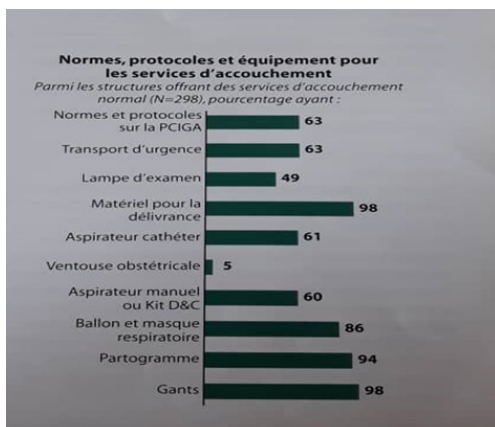


Figure 7 Demographic Health Survey 4 (DHS 4) table.

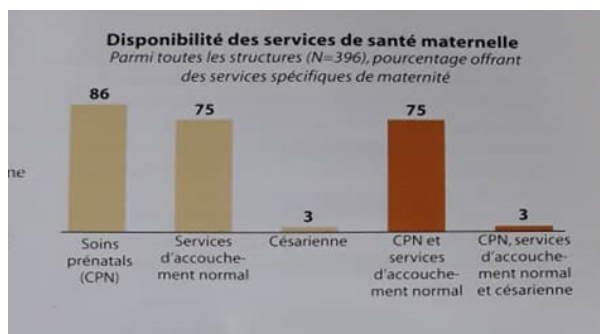


Figure 8 Demographic Health Survey 5 (DHS 5) table.

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Conflicts of interest

All authors declare that they have no conflict of interests.

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