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The Caesarean Section in Dakar: Indications and Analysis Prognosis

Moussa Diallo[1*], Marie Edward Faye Dieme[2], Omar Gassama[2], Astou Coly Niassy Diallo[2], Mame Diarra Ndiaye Gueye[2], Jean Charles Moreau[2]

[1]Service de Gynécologie-Obstétrique, Centre Hospitalier National de Pikine, Sis Camp de Thiaroye, Dakar, Sénégal
[2]Clinique Gynécologique et Obstétricale de l'Hôpital Aristide Le Dantec, Dakar, Sénégal

Email: *moussadiallo25@hotmail.com

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Abstract

The objective of this study was to analyze the indications of cesarean sections performed in a Level II clinic and to evaluate early maternal and neonatal outcome in the context of decentralization of obstetric and emergency newborn care. **Material and Method:** This was a retrospective descriptive and analytical study conducted at the maternity CSNC over a period of 12 months from 1 July 2010 to 30 June 2011. It included all women in childbirth by caesarean section and excluded patients admitted for management of complications of cesarean section performed in another structure. **Results:** During the study period, 595 caesarean sections were performed on a total of 4410 births, a rate of 13.5%. The average age of patients was 27 years. The mean parity was 2. The patients came from them even 55%. They were admitted with a single uterine scar in 28.40% of cases and bi-scar in 25.4% of cases. A pathology was associated with pregnancy in 31.6% of cases. These pathologies were dominated by vascular and renal syndromes (75.5%), anemia (13.8%) and the obstacles previa (10.1%). Caesarean sections were performed in 517 patients in emergency. The technique of Misgav Ladach was the most common 75.1%. The average hospital stay was 4.2 days with extremes of 0 and 15 days. Postoperative maternal mortality was 0.34%. Operative follow-up was simple in 98.3% of patients. Two patients (0.34%) died after surgery. In 92.4% of the cases, the newborns were alive. The Apgar score in the first minute was favorable (greater than or equal to 7/10) in 503 newborns (95.1%) and unfavorable (less than 7/10) in 47 cases (8.55%). At the fifth minute, he was favorable in 98.5% of the cases. Overall stillbirth was 72.26‰ with a total of 43 stillbirths including 3 macerated stillbirths. **Conclusion:** Cesarean section is by far the most accomplished action in gynecology and obstetrics. Its ease of implementation and low cost, and of course his results in terms of reduction of maternal-fetal morbidity and mortality make a key intervention and al-

lowed its extension.

Keywords

Cesarean Section, Indication, Misgav Ladach, Maternal and Fetal Prognosis

1. Introduction

Caesarean section is the most common surgical procedure in obstetrics today. In recent decades, its rate has continued to grow and its indications have multiplied. In Senegal, its rate is 4.4% according to the Demographic and Health Survey conducted in 2014 [1] (EDS-continued 2014). The World Health Organization proposed in 1985 that national caesarean rates be "reasonably" between 10% and 15% of births [2].

Despite the improvement in asepsis and advances in anesthesia resuscitation, there are still complications of varying severity inherent in the gravid-puerperal state on the one hand, and the techniques used on the other hand. For all these reasons, the decision to perform a caesarean section should be based on specific indications. The aim of this work was to analyze the indications for caesareans performed in a level II health center and to assess the early maternal and neonatal prognosis, in a context of decentralization of emergency obstetric and neonatal care.

2. Patients and Methods

Our study was conducted by the Nabil Choucair Health Center, which is a Level II health center, a reference structure in the Northern District of Dakar. This was a retrospective, descriptive and analytical study conducted during 12 months period from July 1, 2010 to July 31, 2011. Were included all parturients who delivered by caesarean section. Patients admitted to manage a complication of a caesarean section performed in another structure were excluded. The data was collected from medical records, birth records, anesthesia records, and operative protocols. For the mothers, the parameters studied were the socio-demographic characteristics, the modes and reasons for admission to the delivery room. For each newborn were studied Apgar Score, birth weight and early neonatal outcome. Caesarean section data included indication, delay between decision and fetal extraction, and possible complications. To classify indications for caesarean section, we used that of Maillet which distinguishes obligatory indications, prudence indications, necessity and abusive indications; and that of Lucas, which takes into account the notion of urgency. The collected data was captured and analyzed with the SPSS software version 17.0 input module. We used the Chi-square test for qualitative variables, and an analysis of variance for quantitative variables. A difference was considered significant when the p was less than 0.05.

3. Results

3.1. Descriptive Results

3.1.1. Caesarean Section Rate

During the study period, 595 caesarean sections were performed out of a total of 4410 deliveries, a rate of 13.5%.

3.1.2. Characteristics of Patients

The average age of our patients was 27 years old with extremes of 13 and 45 years old. They were married in the majority of cases (98.2%) and resided in Dakar and its suburbs (98.3%). The average parity was 2 with extremes of 0 and 12. The patients were admitted with a uterus-cicatricial in 28.4% of cases and bi-cicatriciel in 25.4% of cases. Prenatal follow-up was considered acceptable in 60.6% of the cases, *i.e.* at least 3 prenatal consultations and a complete biological assessment.

3.1.3. Admission Data

The patients were evacuated in 45% were evacuated (referred in 29.7 and evacuated in 15.3%). They came mainly from health posts (48.1%), level I health centers (40.7%). In 11.2% of cases, patients were transferred by other Level II Health Centers. Pregnancy was 478 patients, or 80.3% of the sample. Gestational age was estimated at less than 37 weeks of amenorrhea in 109 patients (18.3%) and greater than 42 weeks in 8 patients (1.4%). A pathology was associated with pregnancy in 31.6% of cases. These conditions were dominated by vascular-renal syndromes (75.5%), anemia (13.8%) and barriers previa (uterine fibroids or placenta previa) (10.1%).

3.1.4. Caesarean Section Indications

Caesareans were performed urgently in 517 patients (86.9%) and programmed in 78 of them (13.1%). Of the patients operated on an emergency basis, the 26 (4.36%) were initially scheduled but were admitted before the date fixed for cesarean section. The indications according to Maillet's analytical classification are shown in **Figure 1**. About half of the Caesarean sections were cautious and only 1/3 of the Caesareans were mandatory.

3.1.5. Caesarean Section Procedures

The time between the caesarean section decision and the fetus extraction (decision-birth) exceeded one hour in more than half of the cases (58%). **Figure 2** shows the distribution of patients by the time between caesarean section decision and fetal extraction. Most patients had had locoregional anesthesia (90.40%). Joël Cohen's incision in the Migav Ladach technique was the most frequently used (75.1%); the medial sub-umbilical incision is reserved for patients who already have this type of scar (6.9%). The hysterotomy was transverse and arcuate segmental in 93.28% of cases.

3.1.6. Prognosis

1) Maternal

The average hospital stay was 4.2 days with extremes of 0 and 15 days. Postoperative

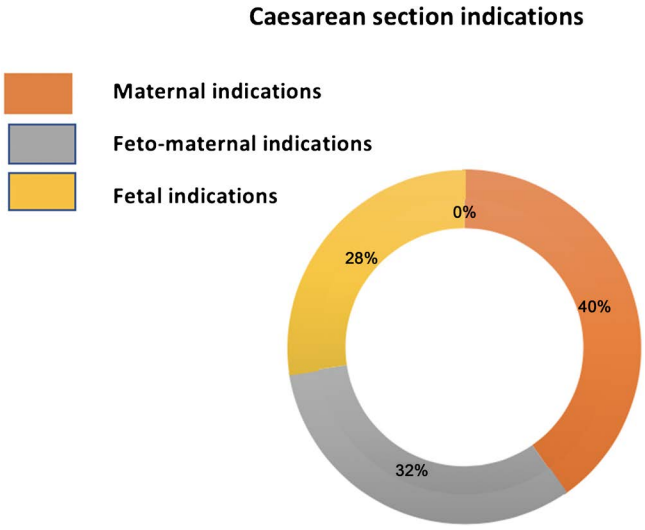

Figure 1. Distribution of patients by Maillet classification.

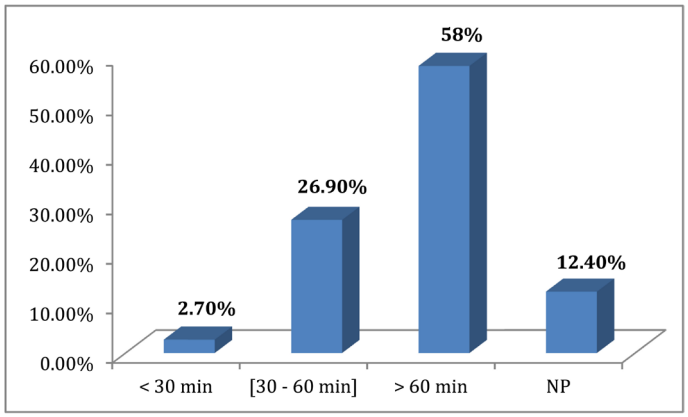

Figure 2. Distribution of patients by time between decision and fetal extraction.

Table 1. Follow-up and complications in the postoperative period.

Surgical Follow-up	Frequency	Percentage (%)
No complication	585	98.32
Endometritis	1	0.16
Suppuration	2	0.34
Hématoma	2	0.34
Death	2	0.34
Other	3	0.50
Total	595	100

maternal mortality was 0.34%. Operative follow-up was simple in 98.3% of patients. Two patients (0.34%) died after surgery (Table 1).

2) Fetal and neonatal

In 92.4% of the cases, the newborns were alive. The Apgar score in the first minute was favorable (greater than or equal to 7/10) in 503 newborns (95.1%)

and unfavorable (less than 7/10) in 47 cases (8.55%). At the fifth minute, he was favorable in 98.5% of the cases. Overall stillbirth was 72.26 ‰ with a total of 43 stillbirths including 3 macerated stillbirths. Birthweight was normal in 421 neonates (70.8%), ranging from 2500 to 4000 grams. Thirty-three (5.5%) newborns were macrosomes and 141 (23.7%) were small.

3.2. Analytical Study

The agar score at the first minute was significantly lower after an emergency cesarean section than after a scheduled caesarean section (p = 0.049). Similarly, in the 5th minute, the risk of having a low Apgar score was even higher when cesareans were performed in an emergency but this was not statistically significant (p = 0.516).

3.2.1. Extraction Time and APGAR Score

The condition of the newborn was not dependent on the delay between the decision of a caesarean section and its completion. On the other hand, the analysis showed that it was strongly related to the context. The Apgar score was poor as caesarean section was performed urgently (Table 2 and Table 3).

3.2.2. Type of Caesarean Section and Postoperative Outcomes

During the recruitment period, seventy-eight scheduled cesareans were performed and no complications were noted. However, five hundred and seven caesareans were performed urgently and ten patients had complications (endometritis, parietal suppuration, suture release and two deaths were recorded). But there was no statistically significant difference (p = 0.909).

4. Discussion

4.1. Epidemiological Aspects

4.1.1. The Frequency

Caesarean section rates are variously reported in the literature. However, they do

Table 2. Distribution by Apgar score according to extraction time.

Extraction time	APGAR score at first minute			Total	P value
	[1 - 3]	[4 - 6]	>7		
<60 min	2	18	133	153	
>60 min	4	21	300	325	**0.141**
Total	6	39	433	478	

Table 3. Context of caesarean section and APGAR at the 1st minute.

Cesarean section	APGAR score at first minute			Total	P value
	[1 - 3]	[4 - 6]	>7		
Programmed	0	1	76	77	
In emergency	6	40	427	473	**0.049**
Total	6	41	503	550	

not appear to be related to the level of development of countries [3] [4] [5]. This rate reached 40% in 2006 in Brazil [5]. Our caesarean section rate of 13.49% is similar to that reported by Bambara in Burkina Faso, which was 11.33% in 2000. It is lower than that found by Cissé and Bobassa who were respectively 25.2% and 31% [6]. This rate of caesarean section although not representative of the entire population of Dakar or Senegal, remains in the proportion of intervention recommended by the World Health Organization in 1985 (between 10% and 15%) [7]. And since this WHO report, all practitioners are committed to keeping rates below 15%. It is also known that in the absence of any complication and any pathological history, at least 6% to 8% of patients will undergo a caesarean section during labor.

4.1.2. The Age

The age group between 20 and 24 years was the most affected by caesareans. Cissé [8] finds the same age range as our study. The more we go to developed countries, the higher the age. This can be explained by the advanced age of patients in developed countries. In developing countries, young age can be explained by early union and low contraceptive prevalence as is the case in Senegal [9]. In developed countries, it is a much older population [10].

4.1.3. Parity

Parity in our study ranged from 0 to 12 with an average of 2.5, with a higher proportion of primiparae (41.5%). Several African authors [11] [12] have found similar results. A survey in France in 2010, in addition to the increase in rates since 1990, also found a slight increase in caesareans for primiparous women (23 to 23.2%). As for multiparas, those with a history of Caesarean section were more likely to be scheduled or unplanned [13].

4.2. Operating Indications

In our series, mandatory indications represented 35%, 40% caution and 13.45% need. Excessive indications of excess accounted for 10.75% of cases. Cissé found 40% of mandatory indications, 37% of caution and 22% of necessity. On the maternal side, foeto-pelvic disproportion by pelvic angustia was the main indication for caesarean section, especially among evacuees from other health facilities. This fact is also found by Diallo [14], Bokossa [8] and Cissé. The analysis of indications also revealed that 41.68% of caesareans could have been planned during prenatal consultations (ANC), compared to 31% in the Ouedraogo series [12].

4.3. Prognostic Aspects

In our series, maternal morbidity was 2.6%, almost identical to Ouédraogo (2.3%) and lower than Diallo (3.9%). Mortality was 0.34% in our series with haemorrhage as etiology. Among newborns 1.5% had an Apgar < 7 in the 5th minute, that of Ouedraogo [12] was significantly higher (40.4%). We recorded

8.06% of perinatal deaths including 43 ittra-partum deaths and 5 early neonatal deaths. These rates are significantly higher than those of developed countries. This high rate can be explained by fetal distress due to late references, but also by the lack of a reliable means of monitoring work. This is why the diagnosis of suffering is most often made at an obvious stage. It should also be noted the under-equipment of neonatal resuscitation equipment, most often it is possible to do at most an aspiration and oxygenation. We agree with Ouedrago [12] that it is not the operative act that creates mortality, but the terrain on which it is exercised. Caesarean section contributes to the reduction of perinatal mortality, but it is essentially the quality of obstetric surveillance that improves it.

5. Conclusion

Caesarean section remains the most common surgical procedure in gynecology and obstetrics. Its simplicity of realization and its low cost and of course its results in terms of reduction of maternal-fetal morbidity and mortality make it a capital intervention and allowed its popularization. On the other hand, its indications must be standardized and well laid down in order to avoid unnecessary harm to the mother and the newborn.

Conflicts of Interest

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

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