

## Research Article

# Short Stay in Maternity after Delivery by Caesarean Section: Pilot Study Carried Out at The Maternity Hospital of the Owendo University Hospital (Gabon)

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## Abstract

**Objective:** To evaluate morbidity early discharge after uncomplicated caesarean section.

**Patients and Methods:** Prospective observational study conducted at the maternity of the Owendo UH from 1 March to 31 December 2016 either. All cases of uncomplicated caesarean section and having accepted this protocol were included. Informed information was provided to each patient on the type of anesthesia, analgesia, early feeding modalities and mobilization. We studied the frequency of Caesarean section, its indications, the surgical technique and the morbidity associated with early discharge.

**Results:** 142 parturients were enrolled. Of these, 33.81% of Caesarean sections were programmed versus 66.19%. Spinal anesthesia was the most common type of anesthesia of 93%. The indications for Caesarean sections were the following, mandatory Caesarean sections 35.2%, Caesarean sections necessary 36.6%, and Caesarean sections of precautions 28.2%. The return of the transit was effective in the first 24 hours in 52.8% parturientes and 132 (92.9%) had a total mobility. The exit was systematic at D3 except complication. On the fifth day, 99.30% had a physical autonomy. We observed return in hospital for an abscess of walls.

**Conclusion:** The practice of simple measures of postoperative rehabilitation allows a resumption of physical autonomy and allow early discharge from hospital. Pre-established protocols and informed information could change our practices.

**Keywords:** Analgesia; Cesarean; Early Exit; Mobility; Rehabilitation

## Introduction

Caesarean section is a frequent management of obstetric delivery. For several years and in most schools, technical advances and postoperative management to improve the comfort of patients have been proposed [1-2-3]. Currently, the trend is towards postoperative rehabilitation and the humanization of it [4-5]. The rehabilitation allows a quick return to normal life and a short stay in hospital [6-7]. This ancient practice was updated by Kehlet in 1997; it is multidisciplinary and combines information, analgesia, nutrition and mobilization [8]. In our context of developing countries and despite the abundance of data in the literature, the change in practice remains difficult. The average length of hospital stay in this case remains standard, 5 to 6 days, with controversies regarding the early recovery of oral feeding. In the face of all these controversies, we carried out an evaluation of the early exit from maternity after uncomplicated Caesarean section. The main objective of the study was to assess maternal morbidity associated with an early discharge from maternity after an uncomplicated Caesarean section.

## Patients and Methods

We conducted a prospective observational and descriptive motherhood of Owendo UH in the period 1 March to 31 December 2016 or 10 months. During this period, we proposed to all the parturients to give birth by caesarean, a protocol of pre-established management. Only cases of uncomplicated Caesarean sections were enrolled. We defined uncomplicated Caesarean section as the one that should be performed in a healthy generalized parturient (absence of serious maternal pathology, stable hemodynamic state, absence of disorder of the blood filth, absence of neurological disorders). Each eligible parturiente was informed of the acceptance protocol and gave her / his written consent after informed consent. The caesarean was performed either by a senior gynecologist or by a junior surgeon at the end of the cycle of specialization in obstetric gynecology. The preferred technique of Caesarean section was that of Misgav Ladach (ML) described by Stark and based on the principle of minimal surgical gesture. It differs from the classical technique in not closing the parietal and visceral peritonea. Information on postoperative intervention and management was given during the pre-anesthetic consultation. After the Caesarean section, surveillance in the post-interventional care room (PICR) was under the responsibility of the 2 medical teams. A standardized protocol for postoperative analgesia has been established, of the multimodal type, by the anesthesia-resuscitation department. It consisted of slow intravenous paracetamol 1g (SIV) every 6 hours,

ketoprofen 100mg in SIV and tramadol SIV if the visual analog scale (VAS) was  $\geq 2$ . For the postoperative rapid rehabilitation, we recommended withdrawal of the urinary catheter in PICR after 2 hours, a liquid feed with physical mobilization as early as H12 and ablation of the venous pathway on D1. The discharge was systematic at D3 except complication with operative wound in the open air and without antibiotic therapy. Only oral paracetamol 1g was recommended to patients after discharge and on request. The one postnatal consultation era was set at D5 and 2nd at D10. This protocol was submitted to the medical advisory committee of our institution and was accepted. The cases of Caesarean sections indicated in parturientes in poor general condition were excluded; the parturients did not adhere to the protocol and the cases eligible but having presented an operative complication and / or stayed in intensive care following the caesarean section. The following parameters were analyzed: Caesarean section frequency, sociodemographic characteristics, pregnancy termination, Caesarean section, type of anesthesia, surgical technique, length of hospitalization, immediate postoperative morbidity ( $D \leq 3$ ) and short-term (D10). The data was entered and analyzed by Microsoft Excel 2010 version 14.5.1 software. They are expressed as a percentage for the qualitative variables and as mean  $\pm$  standard deviations for the quantitative variables.

## Results

During the study period, we performed 1903 deliveries for 328 caesarean sections, a frequency of 17, 23%. Of these caesarean sections, 142 cases were retained (42, 29%).

### Socio-demographic characteristics

The mean age was  $29 \pm 09$  years [15-49 years]. The most represented age group was 25-30 years old (32.39%). We had 60 unmarried parturients (42.3%) and 116 (81.7%) were unemployed, among them 74 (63.9%) students. The mean parity was  $1.81 \pm 1.4$  [9] and 37 parturients (26.2%) were nulliparous. 62 parturients (43.7%) had anterior uterine scar. The mean term was  $38.2 \pm 0.2$  SA [29-43 years].

### Indications and Caesarean Section

48 cesarean sections (33.8%) were programmed versus 94 (66.2%) and 79 (84%) among parturientes in labor. 118 caesarean sections (83%) were performed by resident doctors versus 24 (17%). The most practiced surgical technique was that of ML for 92 cases (64.8%) versus 50 cases (35.2%) for the so-called vector (Table I). For anesthesia, spinal anesthesia (SA) was the most used technique (132 cases) (93%). General anesthesia (GA) was performed 10 times (07%). In this case, there were 6 cases (60%) of SA failure and 4 cases (40%) of SA refusal. The distribution of information was summarized in Table II.

Features (parturientes / Caesarean section)	average	extreme
Age (years)	29	15-49
Parity	1.81	0-9
Term (AW)	38.2	29-43
	Yes (%)	No(%)
Professional activities	36 (18.3)	116 (81.7)
In a relationship with	60 (42.3)	82 (57.7)
Anterior scar	62 (43.7)	80 (56.3)
Caesarean section	94 (66.2)	48 (33.8)
Technique: ML	92 (64.8)	50 (35.2)
Anesthesia Type SA	132 (93)	10 (07)
Surgeon: Junior	118 (83)	24 (17)

**Table I:** Sociodemographic characteristics of those women in labor and caesarean.

	Caesarean section	
Indications	Number (n)	Percentage (%)
Shrunken basin	31	62
macrosomia	9	18
Dystocia Presentation	7	14
Placenta prævia	3	6
<b>Total</b>	<b>50</b>	<b>100</b>
	Caesarean sections needed	
Hypertensive pathology	26	50
Fetal Hypoxia	23	44.3
Cord Circular	3	5.7
<b>Total</b>	<b>52</b>	<b>100</b>
	Caesarean sections of caution	
Cicatricial Uterus	31	77.5
Seat	6	15
Other (PMTCT, convenience)	3	7.5
<b>Total</b>	<b>40</b>	<b>100</b>

**Table II:** Indications for cesarean.

## Duration of Hospitalization

The mean hospital stay was  $3.48 \pm 0.2$  days with extremes of 3 and 5 days. The majority of the patients, 132 cases (93%) left the service after 3 days of hospitalization.

## Immediate Postoperative Morbidity ( $\leq D3$ ) And Short Term (D4-J10)

Over the 3 days following surgery, 6 cases (04, 2%) and 15 cases of nausea (10, 5%) of vomiting were observed (Table III). We noted a return of transit to 75 parturients (52.8%) in the first 24 hours and 132 (93%) had total mobility. At day55, 141 parturients (99.3%) were autonomous and there were 1 case (0.7%) of hospitalization for parietal hematoma. At D10, there was hospitalization for a wall abscess.

Immediate post-operative ( $D \leq 3$ )			
Parameters studied	NOT	(%)	
bloating	0	0	
nausea	15	10.5	
Vomiting	6	4.2	
Temperature ( $\geq 38^\circ$ )	8	5.63	
Transit ( $H \leq 24H$ )	75	52.8	
Hematoma / bleeding ( $H / S$ )	0/03	00 / 02.1	
Mobility ( $H \leq 48$ )	132	92.9	
<b>Consultation at D5</b>			
Physical autonomy	141	99.3	
Transit	142	100	
Temperature ( $\geq 38^\circ$ )	0	0	
Hematoma / bleeding ( $H / S$ )	Feb-00	01.40 / 00	
Return to Hospitalization	1	7.04	
<b>Consultation at D10</b>			
Hematoma / abscess ( $H / A$ )	00/01	00 / 007.04	
Return to Hospitalization	1	7.04	

**Table III:** Postoperative morbidity.

## Discussion

As elsewhere, the frequency of Caesarean section in our country has increased. In Gabon, it was 2.3% in 1990 and 9.8% in 2011 [10-11]. In our center, it is 17.23%. This figure is close to that of French hospitals and inferior to those of other Western countries [9-12-13]. It is however appreciable because it is close to those recommended for university hospitals. We believe that this is the reflection of an adequate care of the parturientes and the testimony of the improvement of our technical platforms. The indications of Caesarean section in our context are not exceptional. We have classified into 3 groups (Table II) as Cissé Boisselier and [13-14]. Thus classified, they aim to reduce maternal-fetal mortality and improve the quality of care. They are like those of other series with maternal-fetal disproportions (fetal macrosomies and narrowed basins) and the so-called cicatricial uterus. When all Caesarean sections are considered, the figures related to narrowed basins should be revised upwards in view of the high rate of fetal hypoxia (44.3%) and that related to the cicatricial uterus. Fetal hypoxia and the uterine scar are not the direct indications of this. We performed

9.8 deliveries per day for 27 hospital beds and an average occupancy rate of 82.12% [72.2 - 93.3%]. An economic logic and a limited number of beds impose a prudent policy of reducing the duration of hospitalization. This is a trend and an ancient practice especially in the United States. In France, this subject is of more recent interest and remains variously appreciated [15-16]. In our context, the duration of hospitalization for a basal birth is  $\leq 3$  days and  $\leq 6$  days for a caesarean section. This is a standard non-early output. The duration of the stay or the early departure is defined by a blur; we will remember that it is the one that occurs rather than the usual length of stay. Our average length of stay is  $3.48 \pm 0.2$  days. We did not find in the series literature having figures below this one. This trend can only be possible if it falls within the scope of postoperative rehabilitation. It is an ancient concept. It was taken over by Kehlet in 1997 [8]. This is a multidisciplinary approach to the postoperative period aimed at the rapid restoration of the patient's previous physical and psychic abilities. In obstetrics it allows the mother to focus on the child and to start breastfeeding. Our approach was that of: information, analgesia, mobilization and early feeding. A similar study was carried out in Libreville in 2014. It did not take into account the postoperative morbidity and the return to hospitalization for complication. It has, however, shown the feasibility of this in our context and the satisfaction of the parturientes [17]. In our practices, the pre-anesthetic consultation (PAC) is systematic as early as 36SA. It constitutes the preoperative rehabilitation phase and is the information phase. The pregnant woman is kept abreast of the type of anesthesia, early oral analgesia, rapid mobilization and early oral intake. This practice has been legislated in France since 2002. It makes it possible to prepare and inform the patients about the postoperative follow-up and the management of analgesia [18]. This is an important step in our context. She tries to break the empirical conception based on haunting digestive disorders and headaches related to food and early mobilization. The rehabilitation process can only be successful in a program of awareness and prior information. This is difficult in our context, because often it is an emergency context (66.19%) and the PAC in this case does not allow to give complete information. Moreover, when it is systematized, it is performed only in 32% of the women who have given birth and in 5.15% of those received in emergency. For many of our gestante the PAC is synonymous with systematic Caesarean section and denies it. In France, the study by Jacques et al showed that in preoperatively, almost half of the practitioners do not have specific information on the subject given to patients [18]. To the information, attach the protocols. This is the case in our structure. In the West according to the countries, the rehabilitation protocols are present in 14 or 60% of the structures, especially in France. It is a major deficiency and a failure factor. It is recognized that the drafting of protocols adapted to local constraints, known and validated by all the participants, is a decisive step for the implementation and the success

of a rehabilitation program [18,19]. The regional anesthesia is the 1st choice regarding the type of anesthesia (92.95% vs 07.05%) in our series. This confirms that, because in the literature and in practice, this is the reference technique in this case [20,21]. It is easy to use and avoids the complications associated with general anesthesia. Moreover, in the context of rehabilitation, it allows communication and reassurance during the intervention. It offers 1, intimate contact between the mother and the newborn. On the surgical level, we followed the evolution of techniques. The technique of Misgav-Ladach is currently considered the reference technique [1-2]. In our study, this is the preferred technique (64.78%). It is all the more realized that it is a junior surgeon (83.09%). Several meta-analyses have shown its influence on blood loss, the occurrence of postoperative sepsis, analgesic use and length of stay [1,18-22]. In view of the above, and given its influence on postoperative morbidity, we prefer this one. However, the large number of multioperative uteri and limited mobilization (43.66%) sometimes make this technique difficult in our context. The postoperative management in our series is recommended as part of post-cesarean rehabilitation [8-23]. Removal of the probe is systematic in SSPI. It represents a discomfort to mobility. It is a source of discomfort and urinary infection [18-24]. In France, the withdrawal of the urinary catheter is performed by 40% of the anesthetists at the end of the procedure. For 51% of them as soon as they arrive in the hospital sector and some authors cancel it in this case [18]. This is made possible by analgesia. It is multimodal. We use only level I analgesics with a satisfaction rate of 85.13%. Which is appreciated? In France, for several years, the management of multimodal analgesia in this case is a well-integrated concept [18-21-23]. The combination of paracetamol and nonsteroidal anti-inflammatory drugs is the most frequently used (90% of anesthetists), although it is often associated with morphine with improved results [18-21]. This is the case with our practices. However, morphine is difficult to use and exceptional in our context. The resumption of feeding precedes the removal of the venous line. It is carried out on arrival in the hospital sector and begins with liquids and then rapidly by solids within 24 hours. In France and elsewhere, this attitude is advocated by the majority of anesthetists in keeping with the work of Kehlet and Dahl [25]. It improves the comfort of the patients by reducing the sensations of hunger and thirst without appearance of undesirable effects. Moreover, it contributes to the reduction of the length of hospitalization that the diet is solid or liquid without appearance of transit disorders. In our series, very few adverse effects were recorded in the immediate postoperative period (14.78%). These results are close to those of other findings [18-21] and above those of Zoumenou and coll. (6%) [25]. However, reticence in the form of barriers persists. These come from families and staff. They still think that the resumption of food is subject to that of transit and materials. Since then, protocols and training have been done, which has contributed to the improvement of our

practices. The ablation of the venous pathway (VP) is performed the next day. This is a so-called path of “security.” It is used for the administration of analgesics and oxytocin before the relay per os. In France, 70% of practitioners declare that it is kept for 24 hours, whereas this option is rarely used in Anglo-Saxon countries [16-20].

Our current tendency is to leave a catheter in place among the parturientes at risk, Because VP seems to be a brake on mobility and maternal autonomy. Thus, the oral route takes precedence over 24 hours. VP analgesia is made of paracetamol on demand. Let 1g / 4H. This facilitated the physical self-satisfaction with 92.95% in the 1st 48 hours. This autonomy affected the length of stay and the overall decrease in the cost of hospitalization. It is  $3.48 \pm 0.2$  days in our series. This figure is close to those of Obame et al. (4 days) and Zoumenou coll. (3 days) [17-25]. It corresponds to the definition adopted for early discharge in this case (within 72 hours) and in line with the recommendations of good practice issued by the High Authority for Health (HAH) in France in 2014 [26]. In France, despite the rehabilitation, the average duration of hospitalization varies according to the services and the level of the institution. It is even more pronounced when it comes to a level III institution and an annual number of births greater than 2500 [18-21]. In 2005, 13.43% (43.29% in our series) of women who underwent a caesarean section were discharged within 3 days [18]. At the consultation on day 5 and on day 10, 99.29% of patients had physical autonomy. Two returns to hospital. One to D 5 for parietal hematoma and one to J10 for abscess of walls. These results give us comfort; they allow a gain on the economic level and in the bed of hospitalization.

## Conclusion

Despite hesitations, the practice of postoperative rehabilitation is now in our habits. Initially limited to Caesarean section, this practice is now extended to all laparotomies not requiring intensive care. The gain is real for resuscitation products, inpatient beds and financial spin-offs. A randomized prospective study is underway and will take into account patients' feelings and morbidity depending on the length of stay in hospital.

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