Original Research Article

Evaluation of pain management after caesarean section in the obstetrics and gynecology department of the University Teaching HospitalBogodogo (UTH-B) in Ouagadougou, Burkina Faso

Abstract

Objective: To evaluate the management of pain after caesarean section in order to improve our practices.

Patients and method: Prospective cross-sectional survey in the gynecology and obstetrics department of the Bogodogo University Teaching Hospital of Bogodogo (UTH-B) in Ouagadougou from 27 February to 28 May 2022. All women who had a caesarean section during the study period and who gave informed consent were included in the study.

Results: During the study period, 196 patients underwent caesarean section.

The mean age of our patients was 26 years, with extremes of 16 and 44 years. The 26-30 age group was the most represented, with 96 patients (48.9%). Caesarean section was performed urgently in 164 patients (83.7%). The majority of patients (95.4%) had undergone spinal anesthesia.All patients reported moderate to severe pain 6 hours after the operation. An almost similar finding was made 12 hours after the operation (96.9%), while 24 hours after the operation the pain was considered to be mild to moderate by the patients.All our post-caesarean patients received analgesics.Diclofenac suppository (100.0%) and nefopam (92.9%) were the most commonly prescribed analgesics. Co-administration of injectable nefopam and diclofenac suppository was the most frequent in our patients (81.6%). Post-caesarean treatment lasted 48 hours in most patients (161 women, 82.1%). During analgesic treatment, only 20 patients experienced adverse effects such as dizziness (11 cases) and nausea (9 cases).

Conclusion: Pain after caesarean section is experienced as very intense by our patients. Assessment and management of this pain should be a major concern.

Key words: Pain, caesarean section, assessment, analgesics, UTH-Bogodogo, Ouagadougou

1-Introduction

Pain is a frequent complaint in postoperative care. An Anglo-Saxon survey ranked it as the primary concern of the operated patient **[1].** Worldwide, the mostperformedsurgical intervention iscesarean section. Hence, post-cesarean pain is a commonproblemwithsignificanthealth and economic impact on the individual patient and society. Adequatetreatment of post-cesarean pain isnecessary to facilitateenhancedrecovery, improveneonataloutcome by improvingbreastfeedingsuccess and bonding betweenmother and child, and reduce pain-inducedsideeffects. **[2,3,4]** Pain after caesarean section is severe **[4],** with maximum intensity in the first 48 hours and then gradually decreasing over two to three days.

Management of this pain is therefore a major concern, as it conditions postoperative rehabilitation **[1].**Analgesic strategies in postoperative caesarean section are currently based on a multimodal approach combining primarily perimedullary or systemic morphine with non-morphine analgesics such as paracetamol, non-steroidal anti-inflammatory drugs (NSAIDs), tramadol or nefopam **[5].**The aim of this study is to evaluate the management of postoperative caesarean section pain in the obstetrics and gynecology department of the CHU-Bogodogo.

2-Patients and methods

This was a prospective descriptive cross-sectional study in the obstetrics and gynecology department of the Bogodogo University Hospital in Ouagadougou (CHU-B) over a three-month period from 27 February 2010 to 28 May 2022.All women who had a caesarean section during the study period and who gave informed consent were included in the study. Patients who had lost their babies or whose clinical records were incomplete or lost were not included in our study**.**The following parameters were studied:

- ✓ Socio-demographic data
- ✓ Urgent or scheduled nature of the caesarean section
- ✓ Type of anesthesia used during caesarean section
- ✓ Postoperative pain intensity
- ✓ Post-operative complaints
- ✓ Prescription of postoperative analgesics
- ✓ Effectiveness and side-effects of painkillers prescribed

An anonymous survey form was used to collect the data. This form was validated by a pre-test. The survey consisted of a direct interview with the women postoperatively. The information was supplemented by clinical records and temperature charts.

We used the visual analogue scale (VAS) 6 hours, 12 hours and 24 hours after caesarean section to assess the intensity of pain experienced by the women.

Epi info version 3.3.2 and Microsoft Excel 2007 were used for statistical analysis of our data.

3-Results

A total of 196 patients underwent caesarean section during the study period, all of whom were included in the study.The mean age of our patients was 26 years, with extremes of 16 and 44 years. The 26-30 age group was the most represented, with 96 patients (48.9%).

Caesarean sections were performed as emergencies in 164 patients (83.7%), while 32 patients (16.3%) were scheduled.The majority of patients (95.4%) had undergone spinal anesthesia and all scheduled caesarean sections were performed under spinal anesthesia.

All patients reported moderate to severe pain 6 hours after the operation.

An almost similar finding was made 12 hours after the operation (96.9%), whereas 24 hours after the operation the pain was judged to be mild to moderate by the patients (Table I).

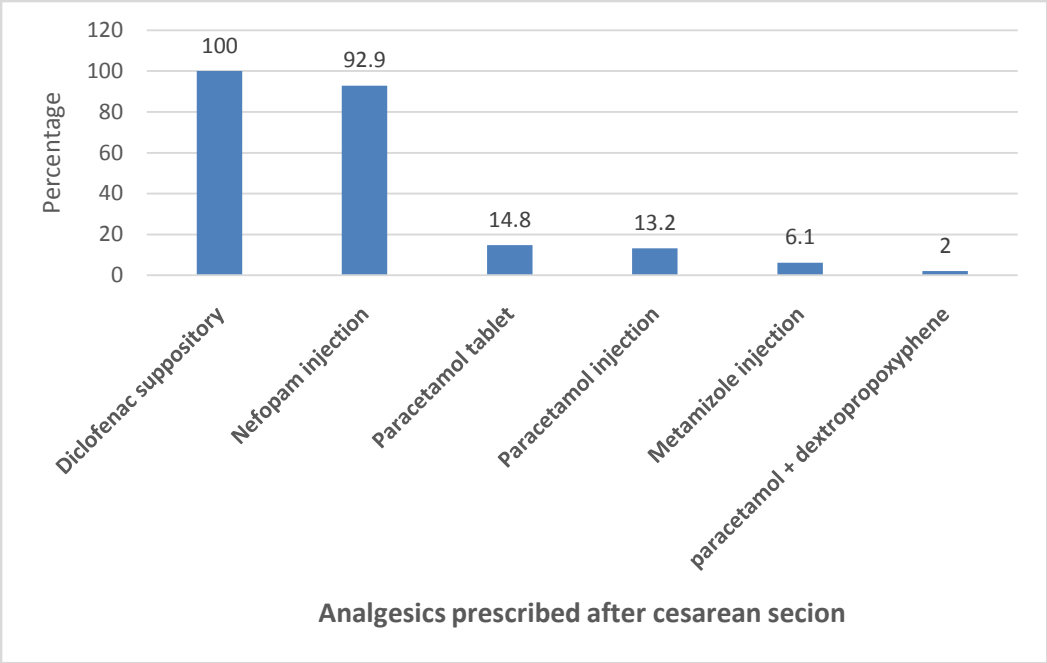
Table I: Distribution of women according to the intensity of pain experienced post-caesarean section

Pain assessment time	Intensity of pain				Number of womensurveyed
	No change (%)	Low (%)	Medium (%)	Strong (%)	
6 hourslater	0 (0.0)	0 (0.0)	120 (61.2)	76 (38.8)	196
12 hourslater	**0 (0.0)**	**6 (3.1)**	**186 (94.9)**	**4 (2.0)**	**196**
24 hourslater	0 (0.0)	125 (63.8)	71 (36.2)	0 (0.0)	196

*h : hour

All our post-caesarean patients received analgesics.

Diclofenac suppository (100.0%) and nefopam (92.9%) were the most commonly prescribed analgesics. (Figure 1).



The co-administration of nefopam injection and diclofenac suppository was most frequent in our patients (81.6%). (Table II)

Table II: Co-administration of analgesics for the management of post-caesarean pain

Co-administration of analgesics	**Number (n=196)**	**Percentage (%)**
Nefopaminj + Diclofenacsuppo.	**159**	**81.1**
Diclofenacsuppo + Paracetamolinj.	13	6.6
Nefopaminj + Diclofenacsuppo + Paracetamolinj.	13	6.6
Nefopaminj + Diclofenac suppo + Metamizoleinj.	11	5.6

Inj=njection Suppo=Suppository

In the post-caesarean section, the duration of pain relief treatment was 48 hours for most patients (161 women, or 82.1%).

During analgesic treatment, only 20 patients experienced adverse events such as dizziness (11 cases) and nausea (9 cases).

These adverse events, which occurred during treatment, did not benefit from any drug management.

4-Discussion

We conducted a prospective descriptive cross-sectional study over a period of 3 months with the aim of evaluating the degree of pain experienced by women after caesarean section surgery and analysing the effect of analgesic treatments administered to relieve this pain. The study population consisted of women who had undergone a caesarean section in the maternity ward of the UTH-B. Patients were interviewed by medical staff, which may have influenced their responses for fear of reprisals.Despite this limitation, we were able to evaluate the management of pain after caesarean section at the UTH-B during the study period. Our results suggest the following comments and discussions.

The patients ranged in age from 16 to 44 years, with an average age of 26 years. This is in line with the demographic situation in Burkina Faso, as the fertility rate in the general population is high in this age group, peaking at 20.5% between the ages of 25 and 29.

This profile was found in studies of women giving birth by Attiron in Ouagadougou **[6]** and Konfe in Bobo-Dioulasso **[7],** who found an average age of 26.5 and 26.0 years.

In our study, 95.4% of women received spinal anesthesia and 4.6% general anesthesia. In the study carried out by Traore (2006) in Bobo-Dioulasso, 33.5% of women underwent caesarean section under spinal anesthesia and 63.3% under general anesthesia**[8].**

In Senegal, Cissé et al (2004) reported a rate of 24.7% for spinal anesthesia and 75.3% for general anesthesia**[9].**

In our study, we observed a more frequent use of the spinal anesthesia technique, which not only avoids all the complications of general anesthesia in pregnant women, but also has advantages in terms of maternal and fetal safety during and after the operation, reception of the child and post-operative analgesia, all of which are recognized by anesthetists and obstetricians **[10,11].**

In our study, we assessed the intensity of pain in the 24 hours following the operation using the VAS. Six hours after caesarean section, 38.3% of women had severe pain, 61.7% moderate pain and no women reported extreme pain, little pain or no pain.

Twelve hours after the caesarean section, pain was severe in 2.0% of women, moderate in 94.9% and mild in 3.1%. No woman reported extreme pain or no pain at all. These different pain scores reflect the real suffering of women in the immediate post-caesarean period, requiring adequate analgesic treatment.

All women systematically received analgesic treatment in the post-caesarean period. The painkillers used were weak morphines (paracetamol + dextropropoxyphene), non-morphine analgesics (nefopam), NSAIDs (diclofenac) and antipyretic analgesics (paracetamol, metamizole).

This analgesic treatment followed a pre-established protocol depending on the type of anaesthesia and the patient's condition. After spinal anesthesia, 81.1% of the women received dual therapy consisting of injectable nefopam (every 6 hours) and diclofenac suppository (every 12 hours). Those with a contraindication to nefopam injection (high blood pressure) had received paracetamol injection (every 6 hours) combined with diclofenac suppository (every 12 hours), i.e. 6.6%.

Injectable metamizole was administered in combination with injectable nefopam and suppository diclofenac in 5.6% of women.

In the study carried out by Vial et al (2009) in Rwanda, post-operative analgesia was on demand and consisted of intramuscular diclofenac and paracetamol four times a day per os**[12].** According to Palot (2006) in France, after spinal anesthesia, pain was relieved by the use of morphine combined with NSAIDs via the rectal route, and after general analgesia by morphine combined with NSAIDs plus paracetamol **[3].** The small number of specialists in our facilities would justify the non-use of morphine and its derivatives in post-caesarean sections, where care is provided by nurses who are not trained in the use of these products.

Post-operative pain is transient and lasts 2 to 4 days. In our study, the duration of post-caesarean pain management was 48 hours (by intravenous and rectal route) in 82.1% of women and more than 96 hours in those who had received a relay per os, i.e. 17.9%.

The 48-hour duration of treatment in women may be explained by the fact that the intensity of post-caesarean pain is high at a duration of less than 48 hours **[14,15,16,17].** It should be noted, however, that the time taken to administer diclofenac suppository did not follow the established procedure, which recommends administration every 8 hours instead of every 12 hours in practice**[17,18,19].**

In the post-caesarean section, after 24 hours of treatment, pain was reduced in 63.8% of women and all women were on treatment. This allows us to say that the analgesic treatment administered resulted in a favourable evolution of pain in the women after 24 hours of treatment, hence the effectiveness of the treatment.

Conclusion

This study is a first step in our process of improving the quality of post-caesarean section pain management in our facility.It enabled us to identify shortcomings in pain assessment and the prescription of analgesics.

Our study shows that pain after caesarean section should not be neglected or treated as an inevitability. Women suffer severe acute pain after caesarean section, and this pain can become chronic and disabling in the long term if analgesic treatment is inadequate.

Hence the need to

- ✓ Evaluate this pain at all levels by providing providers with a pain scale (EVA) to effectively evaluate the pain of childbirth.
- ✓ Training and refresher courses for health workers on assessing and managing pain after caesarean sections and on the use of morphine.
- ✓ Ensure the availability of analgesics in the department for efficient pain management.
- ✓ Establish written protocols for the management of pain after caesarean sections.

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