# Post Operatif Pain Assessment in Sectio Cesarean Patients Using Pain Detect Tools to Assess Post Insision Pain and Numeric Rating Scale to Assess Post Neuraxial Anesthesia

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*Abstract*- **Background:** Cesarean section is highly conducted in the world and Indonesia with many indications. The problem that still a scourge is the persistent pain in operations that are difficult to handle. Many attempts have been made ranging from the selection of anesthesia to pain medication.

**Objective:** This study aims to look at pain scales in postoperative cesarean section patients using Pain Detect Tools and Numeric Rating Scale at the Haji Adam Malik General Hospital, Universitas Sumatera Utara Hospital, Pirngadi Hospital,,and Hermina Hospital.

**Method:** This research is a descriptive study with Cross Sectional design, to assess the scale of pain in postoperative cesarean section patients at the Haji Adam Malik Hospital, Pirngadi Hospital, University of North Sumatra Hospital, and Hermina Hospital in Medan.

**Results:** Based on this study, a total of 107 research subjects were found, with the highest level of education being at the high school/vocational level, the most ethnic groups coming from the Batak tribe, and 2 times previous history of cesarean section. research subjects with the most Pain Detect Tools results are in the group with moderate results, then followed by mild groups, and then followed by heavy groups, research subjects with the most Numeric Rating Scale results are in groups with moderate pain, then followed by mild pain groups, and then followed by severe pain group and subsequently the location of pain that is most felt in lumbar pain, followed by incisional pain, and pain in both.

**Conclusion:** The most common results were moderate *Pain Detect Tools*, and moderate NRS results, and pain location at the lumbar pain

*Index Terms*- Caesarean Section, Pain Detect Tools, NRS, Neuraxial Block Anesthesia

## I. INTRODUCTION

Currently, cesarean section is highly conducted in the world and Indonesia with a variety of indications. Caesarean section is defined as the birth of a fetus through an incision in the abdominal wall (laparotomy) and uterine wall (hysterectomy).[1]

From many definitions of cesarean section, it can be concluded that cesarean section is a surgical procedure whose aim is to remove the fetus by making an incision at the abdominal wall and uterine wall.

If the pain persists for more than three months, it will fall as chronic pain characterized by hyperalgesia or allodynia. Hyperalgesia is a very painful sensation that arises only with a mild pain stimulus. Allodinia is a sensation of pain that arises even though only given the usual stimulus such as palpation.[2] Many attempts have been made to reduce the appearance of this pain, ranging from choosing the type of anesthesia to the selection of pain medications. However, the pain rate in cesarean section is still highly found. Since 1997 the number of chronic pain was only 3% and surprisingly it was increased by 29.3% in 2004.[3]

It is found that 2-10% of cesarean section patients had decreased quality of life due to chronic pain after cesarean section. So far, the treatment of chronic pain was considered unsatisfactory because the therapy is only focused on the symptoms and by inhibiting the neurotransmission so that it only results a temporary reduction of pain. Not only that, from clinical experience, it also often found that pain was occurred at incision area and spinal anesthesia injection area in patients who have had a cesarean section.[4]

Chronic pain therapy must be based on its pathophysiology; not only does it block the transmission of pain, but it also must affect the course of the disease. Chronic pain is often caused by peripheral or central nerve damage and is often referred as a neuropathic condition.[4,5]

## II. METHODS

This study is a descriptive study with a cross-sectional design carried out at Haji Adam Malik General Hospital, Universitas Sumatera Utara Hospital, Pirngadi Hospital,,and Hermina Hospital. The subjects of this study were taken by using total sampling technique which means the number of samples is equal to the total of population. In this study, the subjects were all section cesarean patients who would undergo control at the obstetric and gynecology polyclinic for one month period. After obtaining approval from the Ethics Committee, Faculty of

Medicine, University of North Sumatra, based on inclusion criteria (age 21-40 years, history of previous cesarean section, ASA 1-2, had cesarean section in a minimum period of 4 weeks before interview, using neuraxial anesthesia) and exclusion criteria (diagnosed as eclampsia, ASA>2, first pregnancy), 107 samples were collected. All subjects were recorded for their identity, meanwhile pain assessment scores was determined by using Pain Detect Tools questionnaire and NRS. Subjects were assessed with a score of 0, 1, to 5 in three domains. All scores from each domain are then added together. The range of scores i.e 0 for no pain at all, 1 for no pain, 2 for mild pain, 3 for moderate pain, 4 for strong pain, and 5 for very strong pain. Then interpreted as: Mild pain (no involvement of neurogenic pain), moderate pain (involvement of neurogenic pain is undeniable), and severe pain (there is involvement of neurogenic pain). Data of numeric rating scale at 3 days after neuraxial block anesthesia (before the patient is discharged from the hospital) was taken and interpreted as: 0 for no pain, 1-3 for mild pain, 4-6 for moderate pain, 7-10 for severe pain. Data was taken when patients came to be controlled at the clinic after 4 weeks postoperatively or by telephone. Subjects were recorded based on the location of pain, namely: incisional pain, lumbar pain, or both. All collected data is tabulated and analyzed statistically. The characteristics of subjects that consist of identity, Pain Detect Tools score, and NRS were statistically analyzed and presented in the table.

## III. RESULTS

This study was attended by 107 subjects who met the inclusion criteria. The characteristics of this study were displayed based on level of education, ethnicity, and history of previous section caesarean.

### 4.1 Demographic Data Table

| Characteristic | N (%) |
|---|---|
| **Level Of Education** | |
| Primary School | 3 (2.8%) |
| Junior High School | 15 (14.0%) |
| High School | 55 (51.4%) |
| College Degree | 1 (0.9%) |
| Associate Degree | 10 (9.3%) |
| Bachelor Degree | 21 (19.6%) |
| Postgraduate Degree | 2 (1.9%) |
| **Ethnicity** | |
| Batak | 53 (49.5%) |
| Javanese | 39 (36.4%) |
| Malay | 15 (14%) |
| **History of Previous Sectio Caesarean** | |
| 2 times | 73 (68.2%) |
| 3 times | 27 (25.2%) |
| 4 times | 7 (6.5%) |
| **Total** | 107 |

Based on table 4.1, 107 samples were found, based on level of education there are 3 (2.8%) people in primary school, 15 (14.0%) in junior high school, and 55 (51.4%) in high school, 1 (0.9%) with College Degree, 10 (9.3%) with Associate Degree, 21 (19.6%) with Bachelor Degree, and 2 (1.9%) with Postgraduate Degree.

Based on table 4.1, ethnicity obtained by this study was 53 (49.5%) with Batak ethnicity, 39 (36.4%) Javanese, and 15 (14%) Malay.

Based on table 4.1, history of previous section caesarean obatained by this study was 73 (68.2%) with 2 times previous sectio caesarean, 27 (25.2%) with 3 times previous sectio caesarean, and 7 (6.5%) with 4 times previous sectio caesarean.

### 4.2 Distribution of sample based on incicional pain with Pain Detect Tools score.

| Pain Detect Tools score | n (%) |
|---|---|
| Mild (No evidence of nerve involvement) | 38 (35,5%) |
| Moderate (nerve involvement can't be denied) | 68 (63,6%) |
| Severe (present of nerve involvement) | 1 (0,9%) |
| **Total** | 107 (100%) |

Table 4.2 shows that subjects with mild Pain Detect Tools scores (no nerve involvement) were 38 people (35.5%), moderate Pain Detect Tools scores (nerve involvement undeniably) were 68 people (63.6%), and lastly, severe Pain Detect Tools score (with nerve involvement) by 1 person (0.9%).

**4.3 Distribution of sample based on lumbar pain with Numeric Rating Scale**

| Numeric Rating Scale Score | n (%) |
|---|---|
| No Pain | 34 (31.8 %) |
| Mild Pain | 23 (21,5 %) |
| Moderate Pain | 48 (44,9 %) |
| Severe Pain | 2 (1,9 %) |
| **Total** | 107 (100%) |

Table 4.3 shows that research subjects with no pain Numeric Rating Scale scores were 34 people (31.8%), mild Numeric Rating Scale scores were 23 people (21.5%), moderate Numeric Rating Scale scores were 48 people (44.9 %), and lastly, severe Numeric Rating Scale scores of 2 people (1.9%).

**4.4 Distribution of sample based on pain location**

| Pain Location | N (%) |
|---|---|
| Sectio caesarean incision | 61 (57%) |
| Lumbar pain post neuraxial block | 62 (57.9%) |
| Incision and Lumbar Pain | 44 (41.1%) |
| **Total** | 107 |

Table 4.4 shows that there were 61 people who felt the location of sectio cesarean incision pain (57%), 62 people (57.9%) with post-neuraxial lumbar pain, and 44 people (41.1%) with incision and lumbar pain

## IV.  CONCLUSIONS

From the results of this study conducted to see an overview of pain scales in patients after cesarean section using Pain Detect Tools and Numeric Rating Scale at the Haji Adam Malik General Hospital, Universitas Sumatera Utara Hospital, Pirngadi Hospital,,and Hermina Hospital, it can be concluded that:

1. Subjects with the highest level of education being were high school, the most ethnic groups were Batak, and the previous history of cesarean section was 2 times.

2. Subjects with the most Pain Detect Tools results were in the group with moderate pain results (nerve involvement is undeniable), then followed by a mild group (no nerve involvement), and then followed by a severe pain group (there was nerve involvement ).

3. Subjects with the most Numeric Rating Scale results were in the group with moderate pain, then followed by mild pain group, and then followed by the severe pain group.

4. Most subject based on the location were in the lumbar pain post neuraxial block.

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