

## Factors Affecting On Pain Intensity after Obstetrics Operations In Al-Elwia Maternity Teaching Hospital

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### **Abstract:**

**Objective:** Post cesarean section pain is a significant problem so this study aimed to assess the factors affecting of pain intensity after Obstetrics Operations.

**Methodology:** A descriptive study was conducted on non-probability sample (purposive sample) of (100) women on postpartum who have cesarean section from the period of March 4<sup>th</sup> 2013 to Jan 6<sup>th</sup> 2014 at Al-Elwia Maternity Teaching Hospital. A questionnaire was used as a tool of data collection to fulfill with objectives of the study and consisted of three parts, including demographic, reproductive characteristics, factors affecting on pain intensity and use three scales of assess pain intensity (Verbal, Numerical and Facing rating scale). Data are analyzed through the use of Excel (Statistical package). Through the application of descriptive statistical data analysis include (Frequencies, Percentage, Mean and Standard Deviation).

**Results:** The results of the study revealed that the highest percentage (59%) of the sample their age was ranged between (20-29) years with mean age (26.69 ± 6.1years), (54%) of study sample was multipara, (79%) had half hour the time taken for CS, and (25%) had elective C/S, while (75%) had emergency CS, 73% of cases have family support, 96% of cases declared that health team support played a role in decreasing pain intensity, the nurse Approach with pain was very good the cases 71%, 16% was good, and 10% was not bad and (66%) had moderate score of Pain Assessment (Verbal, Numerical, and Facing Rating Score).

**Conclusion:** Study sample had moderate score of Pain Assessment (Verbal, Numerical, and Facing Rating Score).

**Recommendations:** The study is recommended to provide scientific information for pregnant women during prenatal visits about methods of delivery with and implementing Pain Assessment (Verbal, Numerical, and Facing Rating Score) tool for women after childbirth to management of pain and Conduct the courses to health teams about pain management and how to deal with patients post-operative.

**Keywords:** Factors Affecting, Pain Intensity, Obstetrics and Gynecology Operations.

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### **I. Introduction**

In November of 2005, the Centers for Disease Control and Prevention (CDC) reported that the international cesarean birth rate was the highest ever at 29.1% (9), which is over a quarter of all deliveries; The CDC have made it a national goal to get the number down for "low-risk" mothers by 2010 (9). This means that over 1 in 4 women will experience a cesarean delivery (1,2). Rates of cesarean section have increased dramatically during the last decades in the worldwide. A recent study documented that international cesarean section rates by sub regions range from 1.8% in Middle-Africa to 40.5% in Eastern Asia (3). In spite of increased knowledge of pain and its treatment in recent years, the research over past 25 years demonstrated a high prevalence of pain in surgical patients (4, 5). A recent study reported that 75% of surgical patients experienced moderate to severe postoperative pain (6). It is widely accepted that postoperative pain can impair respiratory, cardiac and endocrine functions. It can also reduce mobility, which may cause joint stiffness, pressure sores or precipitate deep vein thrombosis or pulmonary embolus. Every year, millions of women (15% to 25% of deliveries in Western countries) give birth by cesarean section. However, the associated risks of caesarean section are considerable, one of which is the incidence of abdominal pain that immediately occurs after Cs (7)-(9). The objective of present study were to assess the factors affecting of pain intensity after Obstetrics Operations.

### **II. Methodology**

A descriptive design was conducted on non-probability sample (purposive) which consisted of (100) women who have cesarean section. Data were collected for the period of March 4<sup>th</sup> 2013 to Jan 6<sup>th</sup> 2014 at Al-Elwia Maternity Teaching Hospital. Questionnaire was used as a tool of data collection to fulfill with objectives of the study which consisted of three parts: including demographic, reproductive characteristics, factors affecting on pain intensity. Data related to pain assessment was collected through face-to-face interviews on the ward during the day of the survey. In the morning of the first postoperative day. Patients who were discharged home on the same day of surgery had a single face-to-face interview before hospital discharge.

Assessment of pain severity was done during the interview using one of the following pain scales (evaluators chose which scale to use in each case):

- Verbal rating scale. The patient was asked to choose from verbal descriptions of pain: “no pain”, “mild pain”, “moderate pain” and “severe pain”<sup>(10)</sup>.
- Numerical rating scale. The patient was asked to choose a number from 0–10 that best reflected the level of pain felt, using a scale labeled from “no pain” (score 0) to “worst pain possible” (score 10). For the analysis, scores between 0–3 were considered as “mild pain”, 4–7 as “moderate pain” and 8–10 as “severe pain”<sup>(10)</sup>.

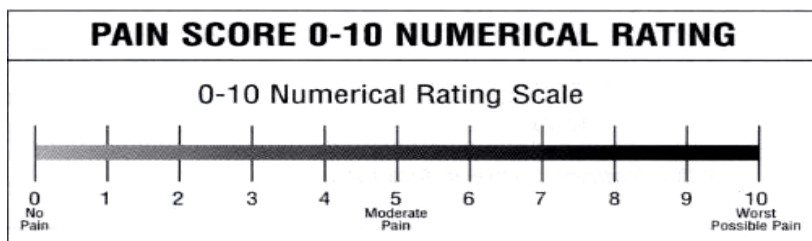


Figure (1): Numerical Pain Scales (0 no pain-10 worst pain).

- Faces rating scale (FRS). Adults who have difficulty using the numbers on the visual/numerical rating scales can be assisted with the use of the six facial expressions suggesting various pain intensities. Ask the patient to choose the face that best describes how they feel. The far left face indicates ‘No hurt’ and the far right face indicates ‘Hurts worst’. Document number below the face chosen.



Figure (2): Faces Pain Scales (0 no hurt pain-10 hurts worst pain).

Data are analyzed through the use of Excel (Statistical package). Through the application of descriptive statistical data analysis include (Frequencies, Percentage, Mean and Standard Deviation).

### III. Results

Table (1): Distribution of Socio-Demographic Characteristic for Study Sample.

Variables	Study Sample (n=100)	
	No.	%
<b>Age / years</b>		
< 19	10	10
20 - 29	59	59
30 - 39	27	27
> 40	4	4
$\bar{x} \pm SD$	26.69 ± 6.1	
<b>Educational level</b>		
Primary school graduate & less	83	83
Intermediate & secondary school graduate	13	13
Institute & college graduate & more	4	4
<b>Occupation</b>		
Employed	97	97
Non employed	3	3
<b>Place of residence</b>		
urban	100	100
Rural	0	0
<b>Socioeconomic status</b>		
Low	1	1
Moderate	70	70
Good	29	29

Table (1) shows that the highest percentage (59%) of study sample was at age group (20-29) years with mean age (26.69 ± 6.1years), (83%) was graduated from primary school and less, and (97%) of them was

housewives. The highest percentage (100%) was from urban area. (70%) of them was have moderate socioeconomic status.

**Table (2): Distribution of Reproductive Characteristic for Study Sample.**

Variables	Study Sample (n=100)	
	No.	%
<b>No. of parity</b>		
1 - 2	36	36
3 - 4	54	<u>54</u>
> 5	10	10
<b>No. of abortion</b>		
Non	79	<u>79</u>
1 -2	18	18
> 3	3	3
<b>No. of Alive children</b>		
1 - 2	36	36
3 - 4	54	<u>54</u>
> 5	10	10
<b>Gender of the baby</b>		
Male	<u>77</u>	<u>77</u>
Female	23	23
<b>Weight at birth</b>		
1500 - 2500	4	4
2500 - 3500	82	<u>82</u>
3500 - 4000	14	14
$\bar{x} \pm SD$	3390.5 ± 374.6	

Table (2) shows that the highest percentage (54%) of study sample was multipara. The majority for study sample (79%) did not have any previous abortion. (54%) had 3-4 alive children. The highest percentage (77%) of study sample had born a male newborn. while the lowest percentages (23%) had born a female newborn. (82%) of their newborn were within the normal weight (2500-3500) gm.

**Table (3): Time and Types and Indication of Cesarean Section for Study Sample.**

Variables	Study Sample (n=100)	
	No.	%
<b>Time taken for CS</b>		
Half Hour	79	<u>79</u>
One Hour	20	20
More than One Hour	1	1
<b>Types of CS</b>		
Elective	25	25
Emergency	75	<u>75</u>
<b>Indication for CS for mother</b>		
Primipara	15	15
Previous CS	81	<u>81</u>
Prolonged labor	2	2
Post term labor	2	2
<b>Indication for CS for fetus</b>		
Fetal distress	9	<u>9</u>
Breech presentation	1	1

Table (3): shows that the highest percentages (79%) had half hour the time taken for CS, and (25%) had elective C/S, while (75%) had emergency CS.

Concerning the indication of CS for mother: The highest percentages (81%) had previous CS, and (15%) had primipara. Concerning the indication of C/S for fetus: the highest percentages (9%) had fetal distress.

**Table (4): Family and Medical Staff Play a Role in Decreasing Pain Intensity.**

Variables	Answer	Study Sample (n=100)	
		No.	%
<i>Did family support play a role in decreasing pain intensity.</i>	Yes	73	<u>73</u>
	No	27	27
<i>Source of support</i>			
Family (husband, patient mother or father, son)		73	<u>73</u>
No one		27	27
<i>Did health team support play a role in decreasing pain intensity.</i>	Yes	96	<u>96</u>
	No	4	4
<i>Nurse approach with pain.</i>			
Excellent		1	1
Very good		71	<u>71</u>
Good		16	<u>16</u>
Not bad		10	<u>10</u>
Very bad		2	2

Table (4): shows that the highest percentages 73% of cases have family support, 96% of cases declared that health team support played a role in decreasing pain intensity, the nurse Approach with pain was very good the cases 71%, 16% was good, and 10% was not bad.

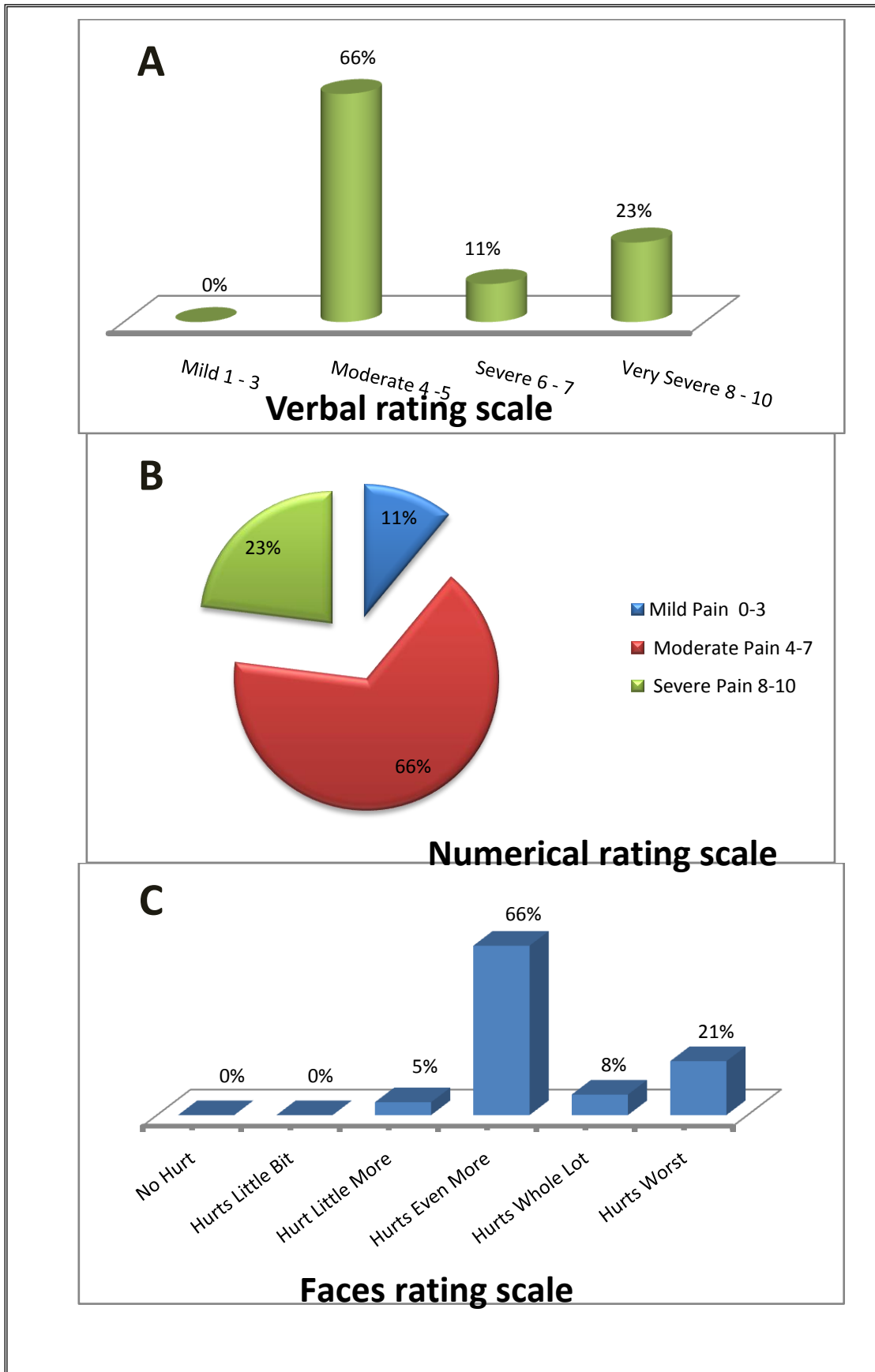


Figure (3): Scores distribution of background pain intensities as measured by Verbal Rating Scale (A) and Numerical Rating Scale (B) and Facing rating scale (C) among Study Sample.

#### IV. Discussion

Table (1) shows that the highest percentage (59%) of study sample was at age group (20-29) years with mean age ( $26.69 \pm 6.1$  years). The way an older person responds to pain may differ from the way a younger person responds. Because elderly people have a slower metabolism and greater ratio of body fat to muscle mass than younger people, small doses of analgesia agents may be sufficient to relieve pain in young person and these doses may be effective for longer periods<sup>(11)</sup>.

Table (2) shows that the highest percentage (54%) of study sample was multipara. Past experience is tempting to expect that a woman who has had multiple or prolonged experiences with pain would be less anxious and more tolerant of pain than a woman who has had little pain<sup>(12)</sup>. Preoperative patient education improves expectations, compliance and ability to effectively interact with pain management techniques.

Table (3): shows that the highest percentages (79%) had half hour the time taken for CS, and (25%) had elective C/S, while (75%) had emergency CS. Caesarean section is a very common surgical procedure worldwide. Suturing the peritoneal layers at caesarean section may or may not confer benefit, hence the need to evaluate whether this step should be omitted or not<sup>(13)</sup>. In a study of Closure versus non-closure of the peritoneum at caesarean section showed that there was improved short-term postoperative outcome if the peritoneum was not closed and the number of postoperative analgesic doses was reduced in the peritoneal non-closure<sup>(13)</sup>. Another study showed there is no conclusive evidence about how the skin should be closed after caesarean section, while operating time was significantly shorter when using staples, the use of absorbable sub cuticular suture resulted in less postoperative pain and yielded a better cosmetic result at the postoperative visit<sup>(14)</sup>. A study of caesarean section in Bangladesh, result showed that there was no significant increase in febrile morbidity, antibiotic usage, length of hospital stay or return of bowel function in the non-closure group. On the other hand, non-closure group had less post-operative analgesic requirements, difficulties with some bowel function and no extra hospitalization time<sup>(15)</sup>. A few studies were also done in this respect. Pietrantoni (1991) kept only the parietal peritoneum open in a study of more than 200 women and found no differences with controls in post-operative complications<sup>(16)</sup>. Hull (1991) in a study of more than 100 cases reported shorter operation times, less pain, less oral analgesia and less bowel stimulant administered when both peritoneum are left open. No adverse effects on immediate post-operative recovery were found<sup>(17)</sup>. Other study in India, showed that patients operated in non-closure had faster post-operative recovery and are better able to take care of their babies, and group mean operative time was 23 minutes, operative blood loose was minimal, IV fluid requirement was less, ambulation was earlier<sup>(18)</sup>. The decrease in the operation time with non-closure of the peritoneum was associated with less anesthesia time and less wound exposure to the environmental contaminants<sup>(19)</sup>. A study of closure of laparotomy incision with or without peritoneal suturing showed the difference of 7 minutes in operation time between two groups is statically significant, the benefits here include decreased anesthesia and operating room costs, personal time and expense, and suture costs<sup>(19)</sup>. Seven studies compared the operating time between the closure and non-closure groups, among the seven studies; six showed that, as expected, non-closure of the peritoneum reduced the total operating time by up to 10 min compared with closure. Most surgeons would agree that shortening an obstetric or a gynecological procedure by 5–10 min did not significantly influence the pain and outcome or post-operative recovery<sup>(20, 21)</sup>.

Table (4): shows that the highest percentages 73% of cases have family support, 96% of cases declared that health team support played a role in decreasing pain intensity, the nurse Approach with pain was very good the cases 71%, 16% was good, and 10% was not bad.

Psychological support is very important in any situation but when a person is suffering from pain, he/she needs more support<sup>(22)</sup>. Social workers play an important role in psychological support, but unfortunately they are not available in our governmental hospitals. A study effect of fathers' attendance to labor and delivery on the experience of childbirth in Turkey showed that fathers' support in birth helped mothers to have more positive experiences in all aspects of childbirth. There was no relationship between fathers' support and pain intensity, length of labor, use of pain-relieving drugs, or obstetric interventions in birth. When mother and father were supported during labor and delivery, the rate of the fathers who adopted an active role was high<sup>(23)</sup>. Other study agreement that husband not effect pain intensity during labor, the results of this study carried out on 98 British subjects giving birth in hospital, show that the presence of the husband, or chosen birth companion, was not significantly associated with any difference in the perceived intensity of the subjects' labor pain. 78 subjects were accompanied in labor, 60 of who reported that they found their husband's presence at the birth helpful. These subjects had significantly lower levels of pain when compared with all other subjects, i.e. subjects whose husbands were present at the birth, but who were not reported as being of help, and subjects whose husbands were absent<sup>(24)</sup>. A study in Hong Kong showed that women whose husbands were present during labor used significantly higher dosage of analgesia than those whose husbands were absent. No significant differences were found between groups in labor pain or other outcome measures<sup>(25)</sup>. In our study 81% of patients had previous experience of pain postoperative. In Chicago a survey of 250 US adults who had undergone a recent surgical procedure asked about their postoperative pain experience. Approximately 80% of patients experienced pain

after surgery. Of these patients, 86% had moderate, severe, or extreme pain. Additional efforts are required to improve patients' postoperative pain experience<sup>(22)</sup>. Keogh found that psychosocial factors were associated with experiences of CS, both during and following the event. Mother's negative expectations, anxiety sensitivity and fear responses were found to be important, as were birth partner's fear responses. Furthermore, the role that such psychosocial factors had on mother's CS experiences was dependent on the type of experience being measured; psychosocial factors were associated with maternal fear responses during and following the event, whereas they were only related to postoperative pain, and not pain experiences during the operation<sup>(26)</sup>. In UK a study showed that lower preoperative anxiety and pain was associated with greater maternal satisfaction with elective caesarean section and better recovery. Information provided by anaesthetists and perceived emotional support are also of importance. It may be possible to identify women with high anxiety and facilitate satisfaction and recovery through providing additional supportive input<sup>(27)</sup>. Other study in UK by this study the impact of cesarean birth on women's psychological well-being is highlighted. Enhanced communication during labor and delivery, and preparation or education on issues surrounding cesarean section, can reduce pain, distress and improve women's satisfaction with birth<sup>(28)</sup>.

Professional care and support from midwives and doulas can also reduce negative experiences of childbirth, especially during labor/delivery, when fears, expectations and a range of different emotions (negative and positive) are reported<sup>(26)</sup>. A study of pain and women's satisfaction with the experience of childbirth show that the influences of pain, pain relief, and intrapartum medical interventions on subsequent satisfaction are neither as obvious, as direct, nor as powerful as the influences of the attitudes and behaviors of the caregivers<sup>(29)</sup>. In general, lower postoperative pain ratings were the best predictors of satisfaction and helpfulness of treatment. Preoperative pain status, expected level of postoperative pain, and time waiting for pain medication after a request was made were not significantly correlated with ratings of postoperative pain or satisfaction. These results highlight the important influence of adequate treatment of postoperative pain and perceived concern by the hospital staff on patient satisfaction<sup>(30)</sup>. In Taiwan a study of preoperative nursing intervention result show that preoperative nursing intervention for pain has positive effects for patients undergoing abdominal surgery<sup>(31)</sup>. Other study show there is a need for nurses to be aware of the psychological status of Radical prostatectomy patients and its impact upon patients' experience of postoperative pain and recovery<sup>(32)</sup>. A study agreement that bad event effect pain, these findings suggest several intervention points for health care practitioners, including careful prenatal screening of past trauma history, social support, and expectations about the birth; improved communication and pain management during the birth; and opportunities to discuss the birth postpartum<sup>(33)</sup>. Figure (3) revealed that the Pain Scores distribution of background pain intensities as measured by Verbal Rating Scale (A) and Numerical Rating Scale (B) and Facing rating scale (C) among Study Sample. The Present Pain Intensity scores indicate that 66% of the participants reported the pain as being moderate, followed by severe (23%). Also conducted a descriptive study with 60 women in the post-operative period of cesarean section. Pain was measured with both the Numeric Scale and the McGill Pain Questionnaire concluded indicate that 51.7% of the participants reported the pain as being moderate, followed by strong (20%), weak (18.3%), and unbearable (10%)<sup>(34)</sup>. High pain scores were found<sup>(35)</sup> in several post-surgery patients assessed by the Present Pain Intensity, verifying that the post-surgery pain was usually moderate to severe. Concerning the pain scores assessed by the Numeric Category Scales, high scores can also be observed. The pain average was 4.3 at rest, 6.2 walking and 6.9 when sitting down and standing up, which, according to authors<sup>(36)</sup>, represents the moderate pain level. Others<sup>(37)</sup> found an average of 6.9 through the Numeric Scale for parous women who had gone through a cesarean section.

## V. Recommendations

- Provide scientific information for pregnant women during prenatal visits about methods of delivery.
- Implementing Pain Assessment (Verbal, Numerical, and Facing Rating Score) tool for women after childbirth to management of pain.
- Conduct the courses to health teams about pain management and how to deal with patients post-operative.

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