

Postcesarean section patient's concept and satisfaction about types of anesthesia

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Abstract

Background: The aim of this study was to determine and assess the awareness, concept, and satisfaction of pregnant women about anesthesia for cesarean section (C/S) and to evaluate the role of health staff, including anesthesia, in providing safe, efficient anesthesia. **Materials and Methods:** A total of 170 post-C/S women admitted to the postnatal wards or attended the postnatal clinics at Abha Maternity and Children Hospital, Khamis Mushayt City Hospital, and Khamis Mushayt Military Hospital were included. A self-administered questionnaire was designed. It comprised personal characteristics, types of anesthesia, satisfaction about anesthesia, and complications during and after the procedure. **Results:** The use of general anesthesia among patients with previous C/S was found to be higher than spinal anesthesia. However, in the current C/S, the use of spinal anesthesia had increased to reach 53.5%. Excellent satisfaction about anesthesia was demonstrated by only 43.5% of patients, while 29.4% and 17% stated good and fair satisfaction, respectively. A 9.4% of patients demonstrated poor satisfaction. Breastfeeding within the day of the procedure and 1 day after was 29.4% and 34.1%, respectively. **Conclusion:** Utilization of general anesthesia as a technique for C/S was high among parturients. Excellent satisfaction about the procedure and anesthesia was found to be low. Regional anesthesia should be used for C/S whenever it is feasible. Implementation of modes of birth delivery and modalities of anesthesia for C/S in the antenatal program is recommended.

Key words: Anesthesia, cesarean section, delivery, general, regional, spinal

INTRODUCTION

The lower-segment cesarean section (C/S) is one of the most common surgical procedures worldwide. It could be performed under general or regional anesthesia. Regional anesthesia involved both spinal and epidural anesthesia. Due to pregnancy accompanied physiological changes and

the nature of pregnancy itself, a C/S may carry numerous complications range from mild to fatal. Many cases scheduled for normal vaginal delivery may end up with an emergency C/S within a short time due to unanticipated causes. With no underlying medical indications, both maternal and fetal complications rate will increase.^[1-4] Many studies showed the superiority of regional anesthesia compared with general anesthesia. However, the choice of anesthesia might be affected by patients' factors, babies' factors, and clinicians' skills and knowledge. Patients' anxiety and psychological distress may accompany the C/S. Many women are not aware of the procedure itself and the choice of their anesthesia. These mandate the importance of good

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communication, counseling, support, and education prior C/S.^[5,6] During top emergencies and high-risk patients, the choice and conduction of anesthesia should be carried out by a senior, expert anesthetist. In some world areas, the social factors might have a direct influence on the choice of anesthesia. Inability of patients to understand some events occurring perioperatively will result in poor satisfaction.

MATERIALS AND METHODS

The study was carried out from December 2016 to February 2017 in Abha and Khamis Mushayt Cities, southwestern region of Saudi Arabia. A cross-sectional, analytical, comparative design has been conducted. Ethical approval from the Research Ethical Committee of Armed Forces Hospital Southern Region was obtained. Following written informed consent from all patients willing to participate, a total of 170 Saudi and non-Saudi post-C/S women admitted to the postnatal wards or attended the postnatal clinics at Abha Maternity and Children Hospital, Khamis Mushayt Maternity and Children Hospital, and Khamis Mushayt Military Hospital, Saudi Arabia, were included. The researchers have developed a self-administered questionnaire. It comprised personal characteristics, types of anesthesia, satisfaction about anesthesia, and complications during and after the procedure. A pilot study for validation has been conducted in the Medical Services Department for Armed Forces Scientific Research Center as the Arabic version of the questionnaires was given to the participants and then modulated by the research team.

Data entry and analysis were performed using the Statistical Package for the Social Sciences (SPSS version 21.0, for Windows, 2012, Armonk, N.Y: IBM Corporation). Data were subjected to Chi-square test or one-way ANOVA test for statistical analysis.

RESULTS

A total of 170 women who had recently undergone C/S were enrolled in the study. Most patients were Saudi (93.5%). The mean age of the patients was 30.32 years (± 6.19), with the youngest being 19 years old (3 patients) and oldest being 47 years old (2 patients). Forty patients were nulliparous, and the mean for parity was 3.2 births (± 2.17). The number of patients having a higher education was 64 (37.7%). The demographic characteristics of the patients are also in Table 1.

The number of patients who had a history of a previous C/S was 105 (61.8%). Of those, 37 (35.2%) underwent the procedure with spinal anesthesia, 64 (61.0%) with general anesthesia, and 4 (3.8%) patients do not know the type of the anesthesia used. However, for the current

C/S, 91 patients (53.5%) underwent spinal anesthesia, 73 patients (42.9%) underwent general anesthesia, and 6 patients (3.6%) do not know the anesthesia type used. For these patients, only 62 patients (36.5%) had the option to choose the anesthesia type. Out of those 62 women, 18 (29.0%) based their choice of the anesthesia on recommendations and experience from other patients, 32 (51.6%) followed the recommendations of their physicians, while 12 (19.4%) had their choice based on the internet and other resources [Table 2].

Table 1: General characteristics in population

Characteristic	Mean (or proportion)
Age (years)	30.32 \pm 6.19
Nationality	
Saudi	159 (93.5)
Non-Saudi	11 (6.5)
Parity	3.2 \pm 2.17
Occupation	
Unemployed	113 (66.5)
Healthcare workers	20 (11.8)
Nonhealth-care workers	37 (21.7)
Education	
Illiterate	14 (8.2)
Elementary school	12 (7.1)
Middle school	21 (12.4)
High school	59 (34.7)
Higher education	64 (37.7)

Data are shown in mean \pm SD or n (%). SD: Standard deviation

Table 2: Anesthesia type, selection, complications, and satisfaction

Characteristic	Frequency, n (%)
Patients with previous C/S	105 (61.8)
Type of anesthesia for previous C/S	
Spinal	37 (35.2)
General	64 (61.0)
Don't know the type	4 (3.8)
Type of anesthesia for current C/S	
Spinal	91 (53.5)
General	73 (42.9)
Don't know the type	6 (3.6)
Did you select the anesthesia type?	
Yes	62 (36.5)
No	108 (63.5)
Why did you choose this type?	
Other patients' experience	18 (29.0)
Physicians' recommendations	32 (51.6)
Internet and other resources	12 (19.4)
Satisfactions	
Excellent	74 (43.5)
Good	50 (29.4)
Fair	30 (17.7)
Poor	14 (9.4)

Data are shown in n (%). C/S: Cesarean section

One hundred and five patients were satisfied with the last C/S, with 74 (43.5%) being stated that it was an excellent procedure. However, only 47 patients (27.6%) reported that the last procedure was better than the previous C/S. Only 37 (21.8%) required a blood transfusion during the last C/S.

With regard to complications, 51 patients (30.0%) experienced pain, 43 patients (25.3%) had nausea, 27 patients (15.9%) complained of vomiting, 9 patients (5.3%) had headache, 3 patients (1.8%) experienced deep vein thrombosis (DVT), and 2 patients (1.2%) had urine retentions. Seventy-seven patients (45.3%) thought that the complications were a direct effect from the anesthesia, while 51 patients (30.0%) had thought that the complications are permanent. Only 61 patients (35.9%) reported that consent had been taken for their C/S [Table 3].

Sixty-two patients (36.5%) never breastfed their infants after the procedure, 50 patients (29.4%) started breastfeeding within the first 24 h of life, and 58 patients (34.1%) started breastfeeding their infants after the 1st day of life.

Selection of the type of anesthesia did not seem to affect the satisfaction of patients from the procedure ($P = 0.719$). The urgency of the procedure (i.e., emergent C/S) was not considered a determining factor when it comes to satisfactory experience from the procedure ($P = 1.00$). As well, the urgency of the procedure did not affect the patient choice of breastfeeding ($P = 0.413$).

Our data showed that the higher the education level, the more likely women would think that anesthesia is related to complications ($P < 0.0001$) or that the complications would be permanent ($P < 0.0001$).

DISCUSSION

C/S is one of the most common surgical procedures that have been carried every day. The rate of complications increases due to the nature of pregnancy, physiological changes, and family stress. These will danger maternal as well as fetal life, especially when there is no medical

indication for it. Souza *et al.*, 2010 found a high association between perinatal complications and a nonmedical indication of C/S. This association is stronger in Africa when compared to Asia and Latin America.^[1]

Poor communications, fears, missing out, or other emotional factors play a significant role in patient dissatisfaction. Other factors which also distress women are surgical complications and infections. However, anesthesia was the single factor that caused most distress.^[7]

Pregnancy has deleterious effects on patients' airway including failed intubation, ventilation, and aspiration. Aspiration incidence in a C/S under general anesthesia is 1 in 400–600. Neuraxial anesthesia for cesarean delivery will minimize these risks compared with general anesthesia. The study revealed that the rate of general anesthesia among patient with previous C/S was found to be higher than spinal anesthesia, 64 (61.0%) and 37 (35.2%) patients, respectively.^[8–10]

The rate of spinal anesthesia was increased during the current C/S. Spinal anesthesia was demonstrated by 91 patients (53.5%) compared with 73 patients (42.9%) of general anesthesia. However, 6 patients (3.6%) do not know the type of anesthesia used. However, this is still far away from the standard of The Royal College of Anesthetists which recommended that 85% of emergency C/Ss should be carried out under regional anesthesia. When regional anesthesia can be effectively feasible within time, this should be pursued due to its fewer detrimental effects on both infant and mother.^[11,12]

Regarding patient satisfaction about the procedure, 74 (43.5%) patients stated it as excellent, 50 (29.4%) as good, and 30 (17%) as fair. Only 14 patients (9.4%) said that it was poor.^[13,14] Comparing the last procedure with the one before, 47 patients (27.6%) stated that the last procedure was better than the previous C/S. Patient satisfaction plays a major role in measuring the quality of health care. One of these parameters is satisfaction with anesthesia. Anesthesia is a stressful event for many patients, especially during C/S.^[13,14] Dharmalingam and Ahmad Zainuddin 2013 during their survey showed a 97% satisfaction about spinal anesthesia during C/S.^[5]

Counseling, education, highlighting, and support for the patient will help parturients during the procedure.^[13,14] A total of 62 patients (36.5%) had been counseled about anesthesia and their right to select. Out of them, 18 (29.0%) based their choice of the anesthesia on recommendations and experience from other patients, 32 (51.6%) followed the recommendations of their physicians, and 12 (19.4%) had their choice based on the internet and other sources.

Table 3: Experienced complications by the patients

Complications	Frequency, n (%)	P*
Blood transfusion	37 (21.8)	0.326
Pain	51 (30.0)	0.472
Nausea	43 (25.3)	0.270
Vomiting	27 (15.9)	0.560
Headache	9 (5.3)	0.278
DVT	3 (1.8)	0.828
Urine retention	2 (1.2)	0.078

* $P < 0.05$ is significant. Data are shown in n (%). DVT: Deep vein thrombosis

Maheshwari *et al.*, 2015 observed that there is a high association between preoperative patients' anxiety and the selection of general anesthesia compared with regional anesthesia. Preoperative anxiety was seen in 72.7% of patients selected general anesthesia (97.18%, $n = 71/154$) as compared to those selecting regional anesthesia (51.81%, $n = 83/154$) for elective C/S.^[15] In respect to consent for the procedure, only 61 patients (35.9%) stated that they had consent.

Complications of surgery and anesthesia during C/S will be decreased when multidisciplinary team involving obstetricians, anesthetists, pediatricians, midwives and nurses are followed. Early involvement of senior staff for high-risk cases is highly essential and recommended. Furthermore, following the American Society of Anesthesiologists Task Force on Obstetric Anesthesia guidelines to ensure standard care for obstetric patients is highly valuable.^[16,17] In our study, 51 patients (30.0%) experienced pain, 43 patients (25.3%) had nausea, 27 patients (15.9%) complained of vomiting, 9 patients (5.3%) had headache, 3 patients (1.8%) experienced DVT, and 2 patients (1.2%) had urine retentions. Seventy-seven patients (45.3%) thought that these complications were a direct effect of the anesthesia, while 51 patients (30.0%) thought that the complications are permanent. It was found that the higher the education level, the more likely women would think that anesthesia is related to complications ($P < 0.0001$) or the complications would be permanent ($P < 0.0001$). Only 37 (21.8%) required a blood transfusion.

Sixty-two patients (36.5%) never breastfed their infants after the procedure, 50 patients (29.4%) started breastfeeding within the first 24 h of life, and 58 patients (34.1%) started breastfeeding their infants after the 1st day of life. This is dissimilar to Kumar *et al.*, 2014 when they had found that the women who fed their babies within 4 h of delivery were 86.9%.^[6] Delivery by emergency C/S might affect breastfeeding. A percentage of 41% difficulty in breastfeeding was demonstrated by Hobbs *et al.* during their study of the impact of C/S on breastfeeding.^[18]

CONCLUSION

Maternal and fetal safety is the priority. During C/S, any efforts to increase maternal and fetal safety are highly essential. Utilization of general anesthesia as a technique for C/S was high among parturient. Excellent satisfaction about the procedure and anesthesia was found to be low. Following the Confidential Enquiry into Maternal and Child Health reports and the Update Practice guidelines for Obstetric Anesthesia will absolutely improve safety

and care for mothers and babies. Implementation of anesthesia clinic for patients who are booked for elective C/S is recommended. Modes of birth delivery and modalities of anesthesia for C/S should be included in the antenatal program to increase patients' awareness and enhance in decreasing anxiety when an emergency C/S is indicated.

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Conflicts of interest

There are no conflicts of interest.

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