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Research Article / Araştırma Makalesi

Evaluation of Informing Patients in Elective Cesarean Section: Spinal Anesthesia Technical Video Demonstration

Elektif Sezaryen Ameliyatı olan Hastaların Bilgilendirilmesinin Değerlendirilmesi: Spinal Anestezi Teknik

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Abstract

During cesarean section operations, anxiety is quite high. This anxiety also affects the choice of the form of anesthesia. Providing patients with detailed information during preoperative period reduces this anxiety. In the present study, we aimed to investigate the effect of demonstrating a video of administering spinal anesthesia technique to pregnant women on their anesthetic method preferences. After the approval of the ethics committee, the techniques that can be applied during the preoperative evaluation were verbally explained to the pregnant women and the prepared questionnaires were asked. Then, those who were willing to watch an informative video about spinal anesthesia were demonstrated the video. A total number of 412 patients were included in the study. After being verbally informed, 163 (39.6%) of the pregnant women preferred general anesthesia, 166 (40.3%) preferred regional-anesthesia, while 83 (20.1%) of them were hesitant. 98 (23.8%) of the pregnant women stated that they did not have information about anesthesia techniques that can be applied, while 314 (76.2%) of them stated that they were informed. 352 pregnant women (85.4%) watched the video. After video demonstration, those who preferred spinal anesthesia accounted for 62.4%, while others who preferred general anesthesia accounted for 37.6%. 63.9% of the patients watching the video reported that the video demonstrated to inform them was influential in their preferences of anesthesia technique. In conclusion, demonstrating informative video concerning the choice of anesthesia for cesarean section is effective in choosing a method of anesthesia.

Keywords: Patient education, Preoperative information, Cesarean section, Spinal anesthesia

Özet

Sezeryan operasyonları sırasında anksiyete oldukça yüksektir. Bu anksiyete anestezi şeklinin seçimini de etkiler. Ameliyat öncesi dönemde hastalara detaylı bilgi verilmesi bu anksiyeteyi azaltır. Bu çalışmada gebelere spinal anestezi tekniğinin uygulandığı bir videonun gösterilmesinin anestezi yöntemi tercihlerine etkisini araştırmayı amaçladık. Etik kurul onayı alındıktan sonra gebelere preoperatif değerlendirme sırasında uygulanabilecek teknikler sözel olarak anlatıldı ve hazırlanan anket soruları yöneltildi. Daha sonra izlemek isteyen gebelere spinal anestezi bilgilendirmesini içeren video izletildi. Toplam 412 gebe çalışmaya alındı. Sözel anlatım sonrası gebelerin 163'ü (%39.6) genel anesteziyi, 166'sı (%40.3) rejyonel anesteziyi tercih ederken, 83 gebe (%20.1) ise kararsız kaldı. Gebelerin 98'i (%23.8) uygulanabilecek anestezi teknikleri hakkında bilgi sahibi olmadıklarını belirtirken, 314 gebe (%76.2) ise bilgi sahibi olduklarını belirtti.352 gebe (%84.4) videoyu izledi. Video izlemi sonrası spinal anestezi tercih oranı %62.4, genel anestezi oranı %37.6 olarak bulundu. Videoyu izleyen hastalardan %63.9 u video ile bilgilendirmenin anestezi tekniği tercihlerinde etkili olduğunu bildirdi. Sonuç olarak, sezaryen için anestezi seçimine ilişkin bilgilendirici videonun gösterilmesi, anestezi yönteminin seçiminde etkilidir.

Anahtar Kelimeler: Hasta bilgilendirme, Preoperatif bilgilendirme, Sezeryan operasyonu, Spinal anestezi

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1. Introduction

The operation process is fraught with uncertainties for patients. This causes severe anxiety in the patient and severe pain during the postoperative period, and it also causes a consequent delay in recovery (1). Particularly, in addition to surgical stress in cesarean section surgeries, concerns about the baby cause further preoperative anxiety. The perioperative anxiety rate in the obstetric population was reported to be 73.3%–86% (2).

With cesarean section, the frequency of delivery is gradually increasing. According to the data made available by the Turkish Statistical Institute, the cesarean section rate in Turkey was 51% in 2014 and increased to 53% in 2015 and 2016. The first method of anesthesia for cesarean section is regional anesthesia if there are no contraindications (3). It has advantages such as no respiratory depression, intubation complications are avoided, maternal and infant exposure to anesthetic agents is lower, and awake mother sees her baby earlier. It is one of the most important indications that the patient prefers spinal anesthesia. However, it has been reported that many patients do not prefer spinal anesthesia due to high preoperative anxiety (4). Eliminating or minimizing this anxiety is one of the most important goals of preoperative visits. For this purpose, oral, written, and visual methods of informing are used (5).

The present study is intended to investigate the effect of demonstrating a video of spinal anesthesia technique to pregnant women on their preferences of anesthesia method, as well as how effective and accurate information on the anesthesia method affects the pregnant women's preferences regarding them.

2. Materials and Methods

Upon obtaining the Ethics Committee Approval dated 23.06.2017 and No. 80558721/G-152, all patients scheduled for elective cesarean surgery in our hospital between 01.07.2017-01.07.2018 were included. Pregnant women who had emergency cesarean section and were not applied spinal anesthesia technique (infection at the injection site, rejection of spinal anesthesia method by the patient, coagulopathy, severe hypovolemia, increased intracranial pressure) and pregnant women who cannot be oral presentation (language problem) were not included in the study.

The pregnant women were evaluated by the researcher at least 8 hours before the scheduled operation, and a survey of 15 questions in the form of question-answer was applied to the pregnant women whose consent and approval had been obtained. Then, the anesthesia techniques that can be applied for cesarean section were described verbally. After the oral presentation, pregnant women were asked if they wanted to watch the Spinal Technical Video Screening after a 3-question survey (question-answer). Pregnant women who were interested in watching the video were demonstrated the video by the researcher on a laptop and 5 more questions were addressed to those who were interested in watching the video, and their responses were recorded.

The survey applied to pregnant women was prepared in the form of question-answer. The questions were asked by the researcher, and the responses were recorded by the researcher. The "Spinal Technical Video Screening," for which the necessary consent and approvals had been obtained, was organized personally by the researcher.

The first 5 questions in the survey were about age, weight, height, body mass index (BMI), and educational background. Questions 6 and 7 were questions pertaining patients' surgical history and the anesthesia technique applied if they had been operated upon earlier. Question 8 was questioning whether the patients had cesarean section before, while the subsequent 4 questions questioned the anesthesia technique applied and whether they had been informed if they had a history of cesarean section surgery. Pregnant patients were asked whether they received information about the anesthesia techniques that can be applied before they were informed about the anesthesia techniques that can be applied for cesarean section. After verbal information, the

pregnant women were asked 3 more questions questioning their preferences of anesthesia method and why they made those choices. Then, the pregnant women were asked if they were interested in watching the Spinal Technical Video. Those interested in watching the video were asked 5 more questions after watching it. The questions included whether the preferences of pregnant women had changed after watching the video about anesthesia techniques that can be applied for cesarean section, whether the video was effective in their preferences, and whether the informative was useful.

Statistical methods

In the study, SPSS (Statistical Package for Social Sciences) for Windows 23.0 was used for statistical analysis. When presenting descriptive analyses, mean, standard deviation, median and minimum–maximum values were used. Pearson's Chi-Square and Fisher's Exact Tests were used for the comparisons on 2 x 2 grids. The McNemar's test was used when evaluating non-parametric variables in independent groups. The results were assessed at a significance of $p < 0.05$ and $p < 0.001$, with 95% confidence interval.

3. Results

The pregnant women included in the study were aged between 18 and 44 (n: 412) (30.45 ± 5.34). There were 11 pregnant women aged under 20, 301 women aged 21–34, and 100 pregnant women aged 35–44. While 119 of the pregnant women included in the study were university graduates, 138 were high school graduates, 77 graduated from secondary school, and 78 pregnant women were graduates of primary school or below. 412 pregnant women included in the study were verbally given information about anesthesia techniques that could be applied for cesarean section surgery and then asked which anesthesia technique they preferred. 163 (39.6%) of the pregnant women preferred general anesthesia, 166 (40.3%) preferred regional anesthesia, and 83 (20.1%) stated that they were hesitant. 47% of the pregnant women who preferred spinal anesthesia were university graduates (Table 1).

When asked if they received information about anesthesia techniques that can be applied in cesarean section surgeries, 98 (23.8%) of 412 pregnant women stated that they were not informed about the anesthesia techniques that can be applied, while 314 (76.2%) stated that they were informed. Of the 98 pregnant women who were not informed about the anesthesia techniques that can be applied, 56 (52.1%) preferred general anesthesia, 9 (9.2%) preferred spinal anesthesia, while 33 (33.7%) were hesitant. Of the 314 pregnant women who were informed, 107 (34.1%) preferred general anesthesia, 157 (50%) preferred regional anesthesia, while 50 (15.9%) stated that they were hesitant.

Of the 163 pregnant women who preferred general anesthesia, 117 (71.8%) preferred it because they feel fear or anxiety, 21 (12.9%) because they find it safer, 16 (9.8%) because they do not want to remember anything, and 9 (5%) because of their previous experiences. Of the 166 pregnant women who preferred regional anesthesia, 84 (50.6%) preferred it to see their babies immediately, 39 (23.5%) because of their previous experiences, 25 (15.1%) because they find it safer, and 18 (10.8%) because they do not want to be administered general anesthesia (Table 2).

Pregnant women were divided into 2 groups by history of cesarean section. 208 pregnant women were involved in the group without cesarean section (CS (−)), while the group (CS (+)) with previous cesarean section included 204 pregnant women. In the CS (−) group, i.e., the group of those who will undergo their first cesarean section surgery, the hesitancy was found to be higher than in the CS (+) group ($p < 0.001$). In the CS (+) group, spinal anesthesia preference was higher than in the CS (−) group before oral presentation ($p < 0.001$).

In total, 352 (85.4%) of the 412 pregnant women said they were willing to watch the video, while 60 pregnant (14.6%) said they were not. Of the pregnant women who watched the video, 115 preferred general anesthesia and 237 preferred spinal anesthesia. None of the 146 pregnant people

who preferred spinal anesthesia before the video and watched the video changed their preference. 91 (42.2%) of the 206 pregnant people who first preferred general anesthesia or stated that they were hesitant preferred spinal anesthesia after watching the video (Table 3). The ratio of the pregnant women who preferred spinal anesthesia to the total number of pregnant women reached 62.4% (n: 257) after watching the video (Figure 1).

All of the 83 pregnant women who were hesitant after the oral presentation watched the video and all preferred spinal anesthesia.

Of the pregnant women watching the video, 157 were CS (+) and 195 were CS (−). Of the CS (−) 126 pregnant women who watched the video and had preferred general anesthesia or had stated that they were hesitant, 69 (51.1%) preferred spinal anesthesia after watching the video. The 60 pregnant women who preferred spinal anesthesia and watched the video did not change their preference. The frequency of the pregnant women in the CS (−) group who preferred spinal anesthesia technique after watching the video was higher than before watching the video ($p < 0.001$).

225 (63.9%) of the 352 pregnant women watching the video stated that visual information with video was effective in anesthesia technique preferences, while 116 (33%) stated that it was not effective and 11 pregnant women (3.1%) were hesitant ($p < 0.001$).

Table 1. According to preferred distribution of patients after oral explanation

n: 412 (%)	**General Anesthesia 163(39.6)**	**Spinal Anesthesia 166 (40.3)**	**Hesitant 83(20.1)**	**p**
Age				
<20 year	7 (4.3)	0	4(4.8)	
21-34 year	108 (66.2)	*124(74.7)	69(83.2)	
35-44 year	48 (29.5)	42(25.3)	10(12)	
Education Status				*<0.05
Primary school and not education	49(30.1)	18(%10.8)	11(13.2)	
Middle school	40 (24.5)	22(% 13.2)	15(18.1)	
High school	55(33.7)	48(29)	35(42.2)	
University	19(11.7)	**78(47)	22(26.5)	
				**<0.001

Chi-Square test

Table 2. Reasons for preference of anesthesia by pregnant women after oral presentation

n(%)	**General Anesthesia 163 (39.6)**	**Spinal Anesthesia 166 (40.3)**
Feel fear or anxiety	117 (71.8)	-
Find it safer	21 (12.9)	25 (15.1)
Do not want to remember anything	16 (9.8)	-
Previous experiences	9 (5)	39 (23.5)
See their babies immediately	-	84 (50.6)
Do not want to be administered general anesthesia	-	18 (10.8)

Table 3. Anesthesia preferences of pregnant women after watching videos

Prefer of anesthesia after oral presentation	**Spinal technical video screening**	**Prefer of anesthesia after watching the video**
	Watching the video n:146	Spinal Anesthesia n:146
Spinal Anesthesia		General Anesthesia n:0

n:166	Did not watching the video n:20	Spinal Anesthesia n:20
		General Anesthesia n:0
General Anesthesia n:163	Watching the video n:123	Spinal Anesthesia n:8
		General Anesthesia n:115
	Did not watching the video n:40	Spinal Anesthesia n:0
		General Anesthesia n:40
Hesitant n:83	Watching the video n:83	Spinal Anesthesia n:83
		General Anesthesia n:0
	Did not watching the video n:0	-

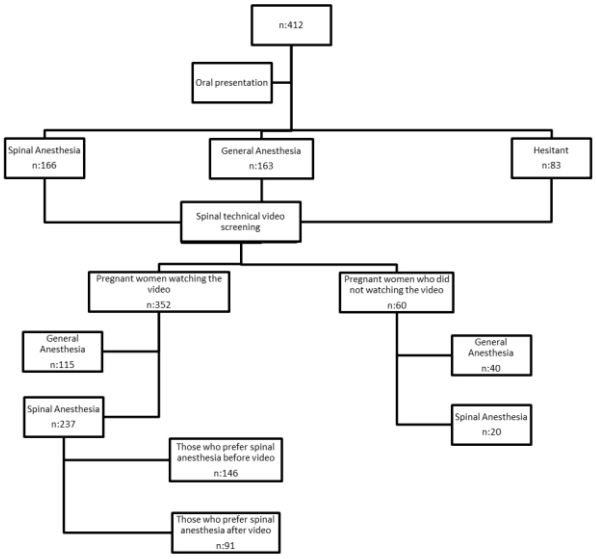

Figure 1. Flowchart

4. Discussion

As a result of our study, after verbal information, 39.6% of the pregnant women included herein preferred general anesthesia, 40.3% spinal anesthesia, and 20.1% were hesitant. The rate of those who preferred spinal anesthesia increased to 62.4% and the percentage of those who preferred general anesthesia decreased to 37.6% after watching the video describing spinal anesthesia technique.

Particularly in developed countries, except for some countries, several countries across the

world are observed to have higher preference rates for regional-anesthesia techniques over the years. Kocamanoğlu et al. reported that regional-anesthesia application increased to 30% in 2002, which was 3% in 1997 (6). In recent years, this rate has risen to 70–80% (7) which is because regional anesthesia is preferred more often by anesthesiologists due to its advantages. Bleeding disorder, local or systemic infection, diseases of the central nervous system, as well as patient rejection are the main contraindications (8). The reason why the patient does not accept this procedure is lack of information and anxiety. It can be defined as having pain with a broader definition. Yavuz et al. reported that they preferred general anesthesia because they did not want to see and hear anything in pregnant women who were evaluated for clinical anxiety (9). In our study, we found that the biggest reason for general anesthesia preference after oral presentation was anxiety and feel fear (71.8%). On the contrary, we found that anxiety did not play a role prefer of spinal anesthesia, and the desire to see the baby immediately was at the forefront. Previous experience is one of the factors affecting preferences. In our evaluation before oral presentation, we observed that patients who had previous cesarean section preferred spinal anesthesia more.

Another factor affecting the preference of anesthesia is the age and educational background of pregnant women. While there were not any pregnant women under the age of 20 who preferred spinal anesthesia, those aged over 35 who preferred general anesthesia was still higher. In terms of educational background, the preference for spinal anesthesia is higher in pregnant women with university degree ($p < 0.001$). This can be interpreted as better educational background increases preference rate of spinal anesthesia. Similarly, we found that the preference for spinal anesthesia is higher in those who have already had a cesarean section.

Various informative methods are applied to both reduce anxiety and explain the process ahead before anesthesia. The most common method is oral and written description. However, failure to achieve success in this way has led to resorting to different ways. In their studies where Sağır et al. used visual information catalogue describing the spinal anesthesia method with pictures, they found a significant reduction in anxiety with this method (5). In a study where face to face interview, brochure, and video and narration were compared, it was reported that the informative video increased patient satisfaction (10). There are studies where informative videos are used during preanesthetic visits. The researchers generally used video to inform, especially those who "do not speak the language," about general anesthesia and spinal anesthesia (11). As a result of the study, they reported that video information reduces the anxiety levels of patients. In another study where a video demonstration was adopted to inform pregnant women about spinal anesthesia, the researchers reported that this form of information did not contribute to patient satisfaction. This is due to the fact that patients already have enough information before watching the video (12,13). In our study, we found that all patients who were hesitant after oral presentation preferred spinal anesthesia after video demonstration. However, the preferences of the majority of patients who previously preferred general anesthesia did not change (93.5%). In this study, although the number of pregnant women who were informed about anesthesia techniques is high, 63.9% of the pregnant women watching the video reported that the video was influential in their anesthesia preferences. Especially while all of those who were previously hesitant and watched the video preferred spinal anesthesia, some of the pregnant women who previously preferred general anesthesia changed their preferences to spinal anesthesia.

To conclude, in our study, we found that a video display is useful for information in the preference of anesthesia for cesarean section. We think that detailed information can be used, especially in hesitant patients, to increase the rate of spinal anesthesia preference among patients.

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Ethics

Ethics Committee Approval: The study was approved by Eskişehir Osmangazi University Ethical Committee (Decision no:1, Date: 17.05.2017).

Informed Consent: The authors declared that consent was obtained from all patients.

Authorship Contributions: Concept: KD, DÇ. Design: KD, DÇ. Data Collection or Processing: KD, DÇ. Analysis or Interpretation: KD, DÇ. Literature Search: KD. Writing: KD, DÇ.

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