PREDICTORS OF ATTITUDE OF PARTURIENTS SELECTED FOR CESAREAN SECTION TOWARD SPINAL ANESTHESIA

M.R. Afhami*, P. Hassanzadeh Salmasi and J. Rahimi Panahea

Department of Obstetrics and Gynecology, Alzahra Obstetric Hospital, School of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran

Abstract- There are many factors contributing to success of regional anesthesia. Patients' attitude toward spinal anesthesia is one of the most important of these factors. This is a descriptive study performed on 100 healthy parturient selected for elective cesarean section in Alzahra Obstetric Hospital, Tabriz, Iran. The aim of this study was to evaluate patients' attitude and their knowledge about spinal anesthesia. Patients were selected randomly. Data collection was performed using a questionnaire. Statistical programs used were Student's *t* test and Chi square for demographic characteristics. The most important factors which influenced patients' attitude were nausea and vomiting (27%), fear of pain (34%), fear of needle puncture (15%) and discomfort during return of sensory and motor functions (6%). Being awake during surgery and witnessing birth of neonate were the most pleasant stages of anesthesia (19%). It seems that providing enough and appropriate information about the procedure at preoperative visit can increase acceptance of this regional anesthetic technique.
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Key words: Spinal anesthesia, Cesarean section, Predictors, Parturient

INTRODUCTION

In 1898, Bier introduced spinal anesthesia, which is commonly referred to as regional or conductive anesthesia. Spinal anesthesia is achieved by injection of a local anesthetic solution into the lumbar subarachnoid space. It takes less time to perform, causes less discomfort to the patient during its placement and produces more intense sensory and motor anesthesia (1, 2). Patients may remain awake or may be sedated by intravenous administration of sedative drugs.

In order to plan a mutually acceptable anesthesia, it is essential that anesthesiologists be aware of patients' attitude toward anesthesia (3). The purpose of this study was to understand parturients' attitude toward spinal anesthesia and to evaluate patients' knowledge and compliance about regional (spinal) anesthesia.

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*** Corresponding Author:**
MR. Afhami, Department of Obstetrics and Gynecology, Alzahra Obstetric Hospital, School of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran
Tel: +98 411 6577340, Fax: +98 411 3361300
E-mail: afhamim@tbzmed.ac.ir

MATERIALS AND METHODS

This is a descriptive study which is performed in Alzahra Obstetric Hospital, Tabriz University of Medical Sciences, Tabriz, Iran. Following approval by the medical committee of the hospital, 100 healthy parturients who were candidates for cesarean section were selected randomly. A one-page questionnaire which consisted of demographic information and perioperative period happenings was completed by patients one hour before and twenty–four hours after operation. Perioperative informations were collected by a trained anesthesia personnel.

All the patients were anesthetized in a similar manner *i.e.* in sitting position and with midline approach. The size of the needle was 22 G and 75mg hyperbaric lidocaine (5%) was used. All the patients were hydrated adequately before induction of anesthesia with 20G intravenous cannula. Patients' cardiovascular and respiratory statuses were monitored every 5 minutes until child birth and then every 10 minutes until transfer to post anesthesia care unit. Standard monitoring included electrocardiogram, non-invasive blood pressure and pulse oximetry.

Patients' demographic characteristics were compared using Student's *t* test and Chi square. *P* value less than 0.05 was considered to be significant.

RESULTS

Average age of patients (±SD) was 30 (±2) years and average weight (±SD), 70±5 kg. Seventy four percent of parturients were literate and twenty six percent were illiterate. A large group of patients in this study (79%) had previous experience of spinal anesthesia.

Pre and intra operative factors which negatively influenced patients' attitude toward spinal anesthesia included multiple punctures before locating anesthesia site, hypotension and subsequent nausea and vomiting, high spinal block and inability to speak, feeling visceral pain and touch and finally fear of feeling pain during surgery (Fig. 1).

Advantages of spinal anesthesia cited by patients during intraoperative period were wakefulness during surgery and witnessing neonatal birth and hearing neonatal cry (33%). Majority of patients did not show any interest about being able to follow activities of surgical or anesthesia team member's during operation and only 14% cited it as an advantage.

Discomfort during return of sensory and motor function of lower extremities was the worse aspect that patients experienced in postoperative period (16%). Back pain was reported in rare cases (1%). Only 2% of patients in this study experienced difficulty in breast feeding.

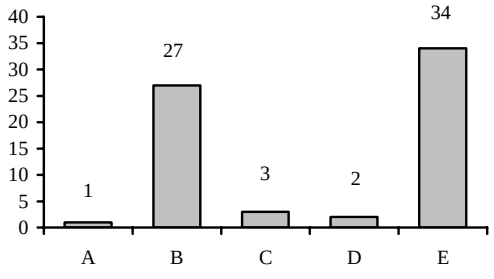

Fig. 1. Intraoperative factors which influenced parturients' attitude. Key: A, failure to locate anesthesia site; B, hypotension; C, high spinal block; D, feeling visceral pain and touch; E, fear of feeling pain.

Data analysis showed that 75% of patients had a positive attitude toward spinal anesthesia after operation and they wished to receive it for their future possible surgeries. There was no significant difference between two literate and illiterate groups from the point of their attitude toward regional anesthesia (*P*=0.13). Prior experience of patients about spinal anesthesia also had no significant effect on their attitude (*P*=0.09).

DISCUSSION

Regional analgesia from which spinal anesthesia is derived is popular as a technique for surgery, for supplementary analgesia and for postoperative and chronic pain management. Advantages of this technique of anesthesia include limitation of its effect to that part of body to be operated on and having generally fewer side effects than general anesthesia (4). Aspiration, cardiovascular and respiratory depression are less common with spinal anesthesia so at the present it is used widely in emergency and elective operations (2).

Anxiety and fear of feeling pain during needle puncture and during surgery were important points which reflect the way by which preoperative preparation of patients is made. Unfortunately in the present educational and therapeutical centers patients are directly transferred to operating rooms without enough psychological and pharmacological preparations. Patients almost always undergo this technique of anesthesia without enough information. It is very important to know that patients who seem very calm and unexcited are the most anxious ones. So the anesthesiologist should visit these patients in the preoperative period, explaining and discussing possible problems and even technique of anesthesia with them.

There was no significant difference between literate and illiterate groups concerning their attitude toward regional anesthesia. It seems that all the patients should get information about advantages and disadvantages of spinal anesthesia without considering their level of educational background.

Prior experience of patients about spinal anesthesia also had no significant effect on their attitude. This could be caused by the poor knowledge of our

patients about spinal anesthesia in their previous surgeries. In a similar study performed in Valencia, Spain, significant difference was found about the above mentioned subjects.

Among intraoperative problems nausea and vomiting which resulted from hypotension were the most important factors that influenced patients' attitude. In similar studies these side effects have been reported with low incidence because they can be prevented by pre and intraoperative adequate fluid management (4). So it could be suggested that paying more attention to preoperative preparation of patients chosen for spinal anesthesia is very important.

Being awake during surgery was accepted by majority of the patients (80%) because they are always afraid of not waking up from anesthesia, but in similar studies performed in other countries patients preferred to be sedated. Textbooks also always recommend sedation during anesthesia (5). Needle puncture has been one of the factors which disturbed patients significantly (6). Therefore it is wise to use the best technique *i.e.* interviewing the patients, educating them about their body position during puncture, using smallest possible spinal needle, avoiding multiple punctures, anesthetizing puncture site and finally practicing on manikins before performing them in operating room (5).

Between postoperative problems which patients encountered, discomfort during return of sensations and motor function was the most important problem that influenced the patients, a problem that needs proper preoperative preparation.

We recommend that anesthesia team members especially the responsible anesthesiologist should always visit the patients in preoperative period and discuses with them their concerns. It is best to publish some short and summarized educational booklets for the patients to read them before induction of anesthesia. In conclusion, it seems that providing enough and appropriate information at preoperative visit and performing spinal anesthesia on the basis of principles and correct technique can increase the acceptance of this regional anesthetic method.

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