Original article:

Retrospective Evaluation of Rate of General Anesthesia for Cesarean Section Deliveries among Patients of Known Population: An Institutional Based Study

Rangit Priyakar Pandey

Assistant Professor, Department of Anaesthesia, Teerthanker Mahaveer Medical College & Research Centre, Moradabad, Uttar Pradesh, India.

Corresponding Author: Dr. Rangit Priyakar Pandey, Assistant Professor, Department of Anaesthesia, Teerthanker Mahaveer Medical College & Research Centre, Moradabad, Uttar Pradesh, India.

Date of Submission: 03 January 2013; Date of acceptance: 19 February 2013

Abstract

Background: Cesarean section on demand can be defined as a primary cesarean section performed at the mother’s request in order to avoid a vaginal birth, without any recognized medical or obstetric indication for the procedure. Literature quotes low rate of use of general anesthesia among cesarean sections subjects. Hence, present study was planned to assess data records of patients undergoing cesarean section (C-section) under general anesthesia.

Materials & Methods: The present research included assessment of data records of patients undergoing cesarean section (C-section) under general anesthesia at Department of Anaesthesia, Teerthanker Mahaveer Medical College & Research Centre, Moradabad, Uttar Pradesh (India) in a span of two years. Complete examination of the data base of the institute was done for collecting the data of the subjects undergoing C-section delivery. Collection of data in relation to the indication of C-section, indication for General anesthesia and associated peri-operative and postoperative complications was done. Summarization of all the data records was done in Microsoft excel sheet and were assessed by SPSS software.

Results: C-section was carried out in 220 subjects. Mean age of the subjects of the present study undergoing C-section was 29.8 years. Percentage of C-section among total deliveries in the present study was 44%. 5 cases of C-section required general anesthesia. General anesthesia rate of C-section in the present was 2.27%. Most common indication for general anesthesia among subjects requiring C-section was maternal factors (previous C-section, maternal disease etc.).

Conclusion: Rate of use of general anesthesia among subjects undergoing C-section is very low. Use of neuraxial techniques might be responsible for it.

Key words: Anesthesia, Cesarean Section, Delivery.

Introduction

Cesarean section on demand can be defined as a primary cesarean section performed at the mother’s request in order to avoid a vaginal birth, without any recognized medical or obstetric indication for the procedure. The medical field now acknowledges a patient’s right to actively participate in her choice of medical treatments, including method of deliver.1,3
The risk of maternal hemorrhage associated with uterine atony increases with vaginal delivery whether or not labour is induced, with placenta retention, and with emergency cesarean. These risks can be avoided with a planned cesarean.4,5

The widespread adoption of neuraxial techniques for labor analgesia and cesarean delivery anesthesia has been prompted by a number of benefits and concerns, including a desire to avoid the potentially difficult maternal airway and the risk of pulmonary aspiration.6,7 Hence; present study was planned to assess data records of patients undergoing cesarean section (C-section) under general anesthesia.

MATERIALS & METHODS

The present research was conducted in the Department of Anaesthesia, Teerthanker Mahaveer Medical College & Research Centre, Moradabad, Uttar Pradesh (India) and it included assessment of data records of patients undergoing cesarean section (C-section) under general anesthesia in a span of two years. Complete examination of the data base of the institute was done for collecting the data of the subjects undergoing C-section delivery. Subjects undergoing both elective and emergent deliveries were included in the present study. Complete demographic and clinical details of all the subjects were obtained. Subsequent examination of the patient's record for done for collecting details of all the parturients who received general anesthesia. Collection of data in relation to the indication of C-section, indication for General anesthesia and associated peri-operative and postoperative complications was done. Summarization of all the data records was done in Microsoft excel sheet and were assessed by SPSS software. Chi-square test and student t test were used for evaluation of level of significance.

RESULTS

Data records of a total of 500 subjects undergoing deliveries were included in the present study. Among these subjects, C-section was carried out in 220 subjects. 20 percent of the subjects undergoing C-section were less than 25 years of age. 56 percent of the subjects were between the age group of 26 to 30 years. 24 percent of the subjects were more than 30 years of age. Mean age of the subjects of the present study undergoing C-section was 29.8 years as shown in Graph 1. Percentage of C-section among total deliveries in the present study was 44%. 5 cases of C-section required general anesthesia. General anesthesia rate of C-section in the present was 2.27% as shown in Table 1. Most common indication for general anesthesia among subjects requiring C-section in the present study was maternal factors (previous C-section, maternal disease etc.) followed by cord prolapse, bradycardia and true emergency as shown in Table 2.
Table 1: Data of the subjects

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total deliveries</td>
<td>500</td>
</tr>
<tr>
<td>C-sections</td>
<td>220</td>
</tr>
<tr>
<td>C-section rate (%)</td>
<td>44</td>
</tr>
<tr>
<td>C-section deliveries requiring general anesthesia</td>
<td>5</td>
</tr>
<tr>
<td>General anesthesia rate (%)</td>
<td>2.27</td>
</tr>
</tbody>
</table>

Table 2: Indications of C-section in patients receiving general anesthesia

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total C-section deliveries requiring general anesthesia</td>
<td>5</td>
</tr>
<tr>
<td>True emergency</td>
<td>1</td>
</tr>
<tr>
<td>Bradycardia</td>
<td>1</td>
</tr>
<tr>
<td>Cord prolapse</td>
<td>1</td>
</tr>
<tr>
<td>Maternal factors</td>
<td>2</td>
</tr>
</tbody>
</table>

DISCUSSION

Regional anaesthesia is the most common method of providing anaesthesia for Caesarean section. When general anaesthesia is used, the most common indications are urgency, maternal refusal of regional techniques (20%), inadequate or failed regional attempts (22%), and regional contraindications including coagulation or spinal abnormalities (6%). Obstetric indications, such as placenta praevia, were in the past considered absolute indications.
for general anaesthesia. There are now multiple reports of these cases are performed safely under regional anaesthesia.\textsuperscript{8,9} Hence, we planned the present study to assess data records of patients undergoing cesarean section (C-section) under general anesthesia.

In the present study, data records of a total of 500 subjects undergoing deliveries were included in the present study. Among these subjects, C-section was carried out in 220 subjects. 20 percent of the subjects undergoing C-section were less than 25 years of age. 56 percent of the subjects were between the age group of 26 to 30 years. 24 percent of the subjects were more than 30 years of age. Mean age of the subjects of the present study undergoing C-section was 29.8 years. Qublan HS et al studied the efficacy and safety of spinal anesthesia for elective cesarean section as compared with general anesthesia. 175 women undergoing elective cesarean section were studied prospectively. They were allocated into two groups; the first group (n=60) received spinal anesthesia, and the second one (n=115) received general anesthesia for elective cesarean section. Preoperative and intraoperative BP and IV fluids were recorded. There were no differences between the two groups in terms of demographics, indication for elective cesarean section, operative time, gestational age, 1 and 5-min Apgar scores, and the means of preoperative and postoperative systolic and diastolic BP. A statistically significant increase was observed in terms of hypotension, postoperative analgesia, pre-induction and intraoperative IV fluids in the spinal group as compared to the general anesthesia group. Spinal anesthesia is as effective as a general anesthesia. Maternal and fetal outcome are favorable. Maternal hypotension can be managed successfully with modest doses of ephedrine and IV fluid infusions.\textsuperscript{10}

In the present study, percentage of C-section among total deliveries in the present study was 44%. 5 cases of C-section required general anesthesia. General anesthesia rate of C-section in the present was 2.27%. Most common indication for general anesthesia among subjects requiring C-section in the present study was maternal factors (previous C-section, maternal disease etc.) followed by cord prolapse, bradycardia and true emergency. Chau-in W et al determined the incidence of maternal mortality related to anesthesia, analyzed the causes and to suggest measures to improve anesthetic safety for the parturients. The authors conducted a prospective survey of hospital records from all of the cases in and outside the operating room receiving general anesthesia in 18 centers between March 1, 2003 and February 28, 2004. All the forms were checked and verified by three-peer review then included in the analysis, using descriptive statistics. Sixteen thousand six hundred ninety seven cases were included. The incidence of anesthetic complication in parturients was 35.9: 10,000. Incidence of the four most common anesthetic related adverse events in caesarean section were desaturation 13.8, cardiac arrest 10.2, awareness 6.6, and death related anesthesia 4.8. Of these, seven (17.5%) had preeclampsia/eclampsia and 46 (76.7%) presented for emergency caesarean delivery. General anesthesia was used in 41 patients (68.4%) and spinal in eighteen (30%). There were eight maternal deaths including five with general anesthesia, giving a case fatality rate of 0.1% of general anesthetics or 0.3% of caesarean deliveries. The authors found that inexperience, inadequate knowledge, inadequate care, and patient conditions were the major contributory factors.\textsuperscript{11}

**CONCLUSION**

Under the light of above obtained data, it can be concluded that rate of use of general anesthesia among subjects undergoing C-section is very low. Use of neuraxial techniques might be responsible for it. However, further studies are recommended for better exploration of results.
REFERENCES


