ORIGINAL ARTICLE

ANNALS OF PUNJAB MEDICAL COLLEGE

Evaluation of Patient Satisfaction with Regional vs General Anesthesia Postoperatively in Lower Abdominal Surgeries

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Submitted for Publication: 11-07-2024
Accepted for Publication 31-08-2024

How to Cite: Khan AR, Javaid K, Khan B, Haq T, Jehad A, Tariq A. Evaluation of Patient Satisfaction with Regional vs General Anesthesia Postoperatively in Lower Abdominal Surgeries. APMC 2024;18(4):273-277. **DOI: 10.29054/APMC/2024.1650**

ABSTRACT

Background: The selection of anesthesia for procedures involving the lower abdomen is an important decision that balances the need for effective pain control with patient safety and satisfaction. **Objective:** Finding the factors that influence patient satisfaction following lower abdominal surgery under regional anesthesia as opposed to general anesthesia was the aim of this study. **Study Design:** Comparative Cross-sectional Study. **Settings:** Department of Anesthesia & Surgery, Mardan Medical Complex, Mardan, Pakistan. **Duration:** Six months from September 2023 to February 2024. **Methods:** A total of 384 patients aged 18-75 years were categorized between General Anesthesia (GA) and Regional Anesthesia (RA). Data on surgical techniques, postoperative complications, patient education satisfaction, gender and ASA status were acquired. Statistical analysis was used to evaluate the association (Chi square Test) between these variables. **Results:** The RA group experienced a decreased rate of postoperative complications and was statistically significant at (p = 0.002), while the GA group experienced greater rates of vomiting (54.2%), nausea (62.5%) and pain (50.4%). In the RA group, 22.9% of respondents were fully happy, compared to 21.9% in the GA group (p = 0.003). RA highlighted the value of making well-informed decisions by reducing complications and increasing satisfaction. **Conclusion:** RA has several benefits, including improved pain management, quicker recovery periods, fewer problems and more patient comfort. Subsequent research endeavors ought to centre on the enduring consequences of distinct anesthetic varieties and their influence on certain surgical procedures and tactics to augment patient comprehension.

Keywords: *Regional anesthesia, General anesthesia, Lower abdominal surgeries, Patient satisfaction postoperatively.*

INTRODUCTION

Countless individuals globally have numerous surgical procedures annually, rendering surgery an essential component of modern medical treatment. Choosing an anesthetic is one of the most crucial decisions in surgical care.[1] Anesthesia is necessary to guarantee the safety and comfort of patients during surgical procedures. The two major anesthetic kinds most commonly utilized in lower abdomen surgeries are general anesthesia and regional anesthesia. There are benefits and drawbacks to each tactic, so medical experts are still debating which is best.[1,2]

Procedures aimed at the legs, hips, and feet are included in the broad category of lower abdominal surgery. Numerous reasons, such as vascular issues, orthopedic disorders, trauma, or elective procedures to improve quality of life, may lead to these surgeries. The selection of anesthesia techniques is essential to guarantee the well-being, comfort, and safety of patients. The two primary anesthetic methods utilized in lower abdomen procedures are general anesthesia and regional anesthesia (such as epidural or spinal anesthesia).[3]

Choosing the right anesthetic type for lower abdominal procedures is crucial because it strikes a balance between

patient safety and satisfaction and the requirement for efficient pain management.[4] When it comes to the greatest working conditions and approach for lower abdominal surgery, anesthesiologists always prefer it when those methods are available.[5] When giving anesthesia during lower abdominal surgery, a challenging decision must be made to balance the patient's needs. Regional anesthesia offers the advantages of reducing intra-operative blood loss and enhanced working conditions also provides acceptable postoperative pain control, reduced perioperative cardiac ischemia, no postoperative hypoxic state, and prevention of arterial and venous thrombosis.[5] On the other hand, general anesthesia causes unconsciousness, which is occasionally preferable in situations involving emergency surgeries or when regional treatments are not appropriate to ensure a reasonably quick onset of effect and to lessen procedure-related stress, general anesthesia has been advised. Each technique does, however, have a particular set of advantages, dangers, and potential effects on patient satisfaction.[6,7] A complex idea of patient satisfaction includes several elements, such as pain management, postoperative recovery, psychological well-being, and overall experience. Understanding how the anesthesia technique impacts different aspects of patient satisfaction is essential to improving surgical treatment and patient outcomes. By doing a thorough examination of patient satisfaction following lower abdominal operations conducted under regional anesthesia and comparing it to those performed under general anesthesia this study aims to bridge this knowledge gap.[8]

Patient satisfaction has become more significant in the context of surgical operations as a criterion for assessing the efficacy of therapies that go beyond conventional clinical outcome measures.[9] a comprehensive evaluation of a patient's whole medical trajectory encompassing preoperative evaluations, surgical care and postoperative follow-up.[10] Patient satisfaction is an important measure of the quality of healthcare services, especially in the context of surgical operations where the choice of anesthetic can have a major influence on the whole patient experience and postoperative outcome.[4,11] By shedding light on the association between anesthetic type and postoperative patient satisfaction, this study aims to improve patient care for patients undergoing lower abdominal surgeries and promote evidence-based surgical anesthesia decision-making.[12,13] Patient satisfaction is greatly impacted by several factors, such as effective preoperative education communication with medical personnel and individual patient preferences. The consequent ramifications for healthcare professionals include methods to improve patient-centered care and the ability to make informed decisions on anesthetic choices.[5,14,15]

This research shows a significant correlation between postoperative patient satisfaction and the type of anesthetic used.[16] A thorough understanding of the variables influencing patient satisfaction in this specific context is essential for optimizing perioperative treatment.[17] During surgery, a patient's top objective is to effectively control their pain. Because customized analgesia reduces pain ratings in the early postoperative period and reduces the use of opioids, RA has been linked to better pain control.[18] This primarily leads to better patient satisfaction in the RA group. Postoperative nausea and vomiting (PONV) is a common cause for worry, particularly following GA. Studies show that the GA group is more likely to experience PONV, which may have an impact on patient satisfaction (Kehlet *et al.,* 2019.[19] Conversely, RA is associated with a lower frequency of PONV. Fast recovery and early ambulation are important outcomes in modern surgical treatment. As stated by Breivik *et al.,* (2019).[20]

A bit shorter hospital stays and more rapid resumption of normal activities are two common goals of RA, which may improve patient satisfaction. Numerous research has investigated how satisfied patients are with RA and GA lower abdomen surgery. As per a Smith *et al.,* (2018) study,[21] Compared to those who received GA, those who received RA reported feeling more satisfied with their pain management and being able to resume routine activities sooner. This is important because the anesthetic used can affect a patient's experience before, during, and after lower abdominal procedures. Our research can help physicians and hospitals treat patients more effectively and let patients choose the anesthetic of their choice. By objectively assessing patient satisfaction levels with lower abdominal regional anesthetic and general anesthesia as well as identifying the variables influencing patients' contentment with the anesthesia type, they have chosen, the study seeks to close a gap in the literature.

METHODS

A six-month cross-sectional comparative study was carried out from September 2023 to February 2024 at the Department of Anesthesia, Main Operation Theatre, Surgical Ward A & B in a Tertiary Care Hospital; Mardan Medical Complex, Mardan, Pakistan. Ethical approval (Letter# CEC/BKMC/381) was obtained on 5/9/2023. Patient data collection in the OT and Surgical Ward A & B occurred only after obtaining informed consent. A total of n=384 patients were recruited using convenience-based sampling. Patients aged 18 to 60 years, ASA Class 1, and those undergoing abdominal surgeries were included in the study. Patients with coagulopathy, allergies to local anesthetics, or vertebral column deformity were excluded.

Data collection involved identifying patients who met the inclusion criteria and gathering baseline demographic information, medical records, and lower abdominal surgery history. We approached patients who received regional anesthesia 4 hours after surgery and those who received general anesthesia 18 hours after surgery. Preoperative data collection included demographic information age, gender, medical history, and comorbidities. In data collection, there were also documented surgical details, including the type of surgery, planned anesthesia method, and the surgeon involved, as well as the preoperative education provided to patients regarding anesthesia options and expectations. Postoperative data collection focused on several areas: pain assessment, pain management, recovery milestones, time to ambulation, and return to oral intake. We recorded complications and their management, including postoperative nausea and vomiting (PONV). Patient-reported outcome measures (PROMs) were collected using standardized questionnaires to assess the patients' perspectives on their recovery and satisfaction with care 2024/7/7.

Data indicating patient, demographic status, clinical status, anesthetic factors, and other outcomes will be entered into the computer using Statistical Package for Social Science (SPSS) version 23. Continuous variables were compared using mean and standard deviation, while categorical variables were compared using the Chi-square test. Continuous variables were described as mean ± standard deviation, whereas categorical variables were reported as percentages. The level of significance was set at $P < 0.05$. After data analysis, the result will be discussed and interpreted.

RESULTS

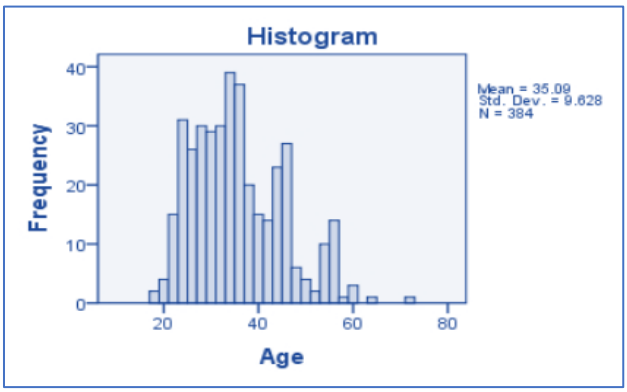
Among a total of 384 patients, n=192 patients received general anesthesia of which 51.9% (n=136) were female and 45.9% (n= 56) were male, and n=192 patients received regional anesthesia in which 48.1% (n=126) were female, and 54.1% (n=66) was male (Table 1).

Table 1: Type of Anesthesia and Gender Relation

Gender	Type of Anesthesia Received		Total
	General Anesthesia	Regional Anesthesia	
Female	136 (51.9%)	126 (48.1%)	262 (100.0%)
Male	56 (45.9%)	66 (54.1%)	122 (100.0%)
Total	192 (50.0%)	192 (50.0%)	384 (100.0%)

The minimum age limit was 18 and the maximum was 75 years the mean age was 35.09 years with a standard deviation of 9.628 years. It indicates that the average age of participants was just over 35 years. The inclusion criteria were adjusted to ensure a broad representation of adult patients undergoing abdominal surgeries while excluding those younger than 18 or older than 75 years. (Figure 1).

Figure 1: Descriptive statistics of age in study participants



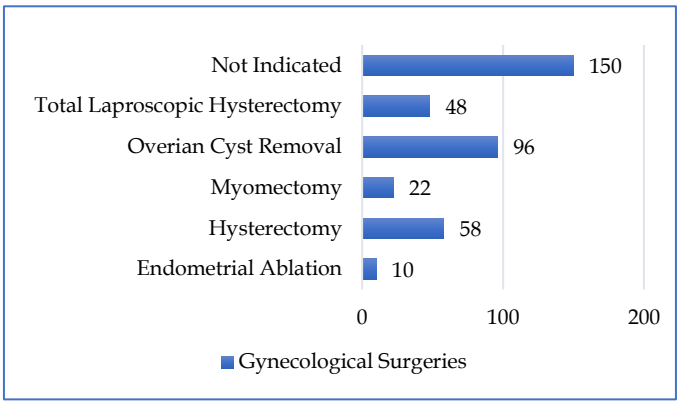
In total n=384 patient (n=168) patient with ASA status class 1(43.8%) including 38.2%(n=100) male and 55.7%(n=68) female and 56.3% (n= 216) patient with ASA status class 2 including 61.8%(n=162) male and 44.3% (n= 54) female. At 0.001 p value, the relation of ASA status and gender is statistically significant (Table 2).

Table 2: Relation between ASA Status and Gender

Gender	ASA status		Total	P Value
	Class 1	Class 2		
Male	100 (38.2%)	162 (61.8%)	262 (100.0%)	0.001
Female	68 (55.7%)	54 (44.3%)	122 (100.0%)	
Total	168 (43.8%)	216 (56.3%)	384 (100.0%)	

In lower abdominal surgery, including gynecological surgery, the highest recording surgery was ovarian cyst removal 25.5%(n=96), then hysterectomy 15.2%(n=58), total laparoscopic hysterectomy 12.5%(n=48), myomectomy 5.7% (n=22) and endometrial ablation 2.6% (n=10). In urological surgery, Maine indicated surgery was cystoscopy 11.2% (n=43), Trans urethral incision of prostate 6.3 %(n=24), Trans urethral resection of prostate 2.1% (n=8), ureteroscopy 5.7 %(n=22) (Figure 2).

Figure 2: Anesthesia Type Relation with Gynecological Surgeries



In association with surgical procedure and anesthesia type, most of the patients experienced adverse effects in which most occurring adverse effects were pain 29.4% (n=113), some patient experienced vomiting 21.6% (n= 83), temperature19.5% (n=75), dizziness16.9% (n= 65), shivering 2.9%(n=11). Regarding the type of anesthesia, 54.2% of the patients in the general anesthesia group experienced vomiting, 9.1% shivering,50.4%pain, and 62.5% nausea; in the regional anesthesia group, 49.6% of the patient experience pain, vomiting 45.8%, shivering 90.9%, nausea 37.5%. At a p-value of 0.002, the relation between patient satisfaction and type of anesthesia is statistically significant, so regional anesthesia was more effective than general anesthesia in lower limb surgery. The adverse outcome was higher in patients who received general anesthesia; the percentage of PONV was higher in general anesthesia nausea (62.5%), vomiting (54.2%), and pain (50.4%). While in regional anesthesia percentage of PONV was lower and had lesser pain frequency nausea (37.5%), vomiting (45.8%), and pain (49.6%).in comparison, regional anesthesia is more patient-friendly, and there was a decreased percentage of complications. On account of the patient's response, the patient was very satisfied with regional anesthesia. At a p-value of 0.002, the adverse outcomes were higher in general anesthesia and lower in regional anesthesia, which was statistically significant because the p-value was lower than 0.005 (Table 3).

Table 3: Association between anesthesia type and postoperative complication

Adverse Effect	Type of Anesthesia		P-value
	Regional Anesthesia	General Anesthesia	
Dizziness	46.2%	53.8%	0.002
Nausea	37.5%	62.5%	
Pain	49.6%	50.4%	
Shivering	90.9%	9.1%	
Temperature	48.0%	52.0%	
Vomiting	45.8%	54.2%	

In n=384 patient 20.1%(n=77) patients did not know about anesthesia options and were pre-educated about the anesthesia type, and 79.9% (n=307) patients were pre-educated and knew about the anesthesia type and procedure; all the patients were satisfied with the complete explanations provided by the trained personal regarding applicable anesthesia methods. However, evaluation of the understanding of these explanations among the patients revealed that 20.1 % failed to completely understand because they were unable to concentrate on the explanations because of anxiety, pain, Operation theatre environment, and some other factors. On account of patient satisfaction, (22.9%) of the patients were fully satisfied with regional anesthesia, and (21.9%) of patients were satisfied with general anesthesia. The percentage of patient satisfaction was higher in regional anesthesia. A p-value of 0.003, patient satisfaction with regional anesthesia was statistically significant, which was lower than the p-value of 0.005 (Table 4 & 5).

Table 4: Preference regarding the type of anesthesia to health care team by patient

Were you able to communicate your concerns or preferences regarding anesthesia to healthcare?			Total
	Yes	N	
General Anesthesia	33.8% (65)	67.2% (126)	192
Regional Anesthesia	40.1% (77)	59.9% (110)	192

Table 5: Satisfaction rate of patients post-operatively

Type of Anesthesia	On a scale of 1 to 10, how satisfied are you with your overall anesthesia experience during the surgery and postoperatively?			P value
	1-3 = poorly	4-6 = well	7-10 = very well	
General Anesthesia	28.1%	49.5%	21.9%	0.003
Regional Anesthesia	29.2%	46.9%	22.9%	
	28.6%	48.2%	22.4%	

DISCUSSION

One of the central findings of this study is the substantial difference in postoperative pain management between the RA and GA groups. All postoperative time points were consistently shorter for patients in the RA group[3].Another interesting discovery is that the RA group had a decreased frequency of squeals, especially postoperative nausea and vomiting (PONV). Following surgery, PONV is frequently the cause of patient discomfort and unhappiness. The lower incidence of PONV in the RA group raises the possibility that regional anesthesia might result in a more relaxing and nausea-free recovery period. The RA person's much greater satisfaction ratings demonstrate how crucial it is to let patients select the anesthetic technique they want. This highlights how crucial it is to have conversations throughout the informed consent process on anesthesia options and potential postoperative adverse effects. To improve patient happiness, medical practitioners should try to customize anesthetic treatments to each patient's unique preferences.[6]

CONCLUSION

In this study, patient satisfaction for RA (46.9%) was lower. Regional Anesthesia offers several benefits, including improved pain management, shorter recovery periods, fewer problems and more patient comfort. Patients in the RA group generally reported better recovery outcomes because of less pain following surgery, a decrease in the usage of opioids, and a drop in the incidence of postoperative nausea and vomiting. The results of the study highlight how important it is for

patients to have an active role in their treatment and make knowledgeable decisions when choosing the best anesthetic technique for lower abdominal procedures.

LIMITATIONS

More prospective randomized controlled trial studies are necessary to evaluate the RA benefits in lower abdominal surgeries.

SUGGESTIONS / RECOMMENDATIONS

As per the study findings, healthcare providers should prioritize involving patients in the selection of anesthesia options. The suggestions for clinical practice are significant. During taking the informed consent, all potential limitations of both general and regional anesthesia were explained. For the betterment of patients' outcomes, anesthetic choices must be customized to individual patient clinical circumstances and patient preferences. This study's outcomes show that regional anesthesia can appropriately reduce the need for opioids which helps decrease the high risks linked with opioid dependence. Medical providers need to prefer RA for the surgeries, particularly for lower abdominal surgeries.

CONFLICT OF INTEREST / DISCLOSURE

None.

ACKNOWLEDGEMENTS

We are deeply obliged to Muhammad Tayyab and Syed Arshad Ullah, lecturers' College of Medical Technology, BKMC who guided us during our research.

FUNDING SOURCE

Not available.

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