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Anesthetic Technique in Iraqi Women Patients with Hysterectomy

Dr. Hawazen Mohammed Hussein
M.B.Ch.B., D.A. & I.C.U. (Anesthesia and Intensive Care)
Ministry of Health, Baghdad Medical Office Al-Rusafa, Al-Kindey Teaching Hospital, Baghdad, Iraq.
Saadoun_m_sarekahea@yahoo.com

Dr. Noora Abdullah Najm
M.B.Ch.B., F.I.B.M.S. (Obstetrics & Gynecology)
Iraqi Ministry of Health, Baghdad Health Directorate Al-Karkh, Al-Karkh Maternity Hospital, Baghdad, Iraq.
noora79nov@yahoo.com

Dr. Khulood Saleh Hamad Alani
M.B.Ch.B., F.I.B.M.S. (Anesthesia and Intensive Care)
Ministry of Health, Al-Russafa Health Directorate, Fatima Al-Zhraa Teaching for Women and Children Hospital, Baghdad, Iraq.
Khuloodsalih583@gmail.com

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ABSTRACT

Background: There is a high rate of postoperative pain with a high index in patients undergoing abdominal hysterectomy.

Objective: To determine the role of anesthetic technique for Iraqi patients who are undergoing to hysterectomy.

Patients and methods: This paper presents a cross-sectional study that examined the impact of anesthesia on patients who underwent hysterectomy by Laparoscopic. The study analysed the basic demographic characteristics and outcomes of women aged 35-60 before, during, and after surgery. Data were collected from hospitals in Baghdad, Iraq, between March 16th, 2022, and July 9th, 2023. The study analysed clinical outcomes from 81 current cases involving intraoperative use of two types of anesthesia: spinal (48) and general anesthesia (33). The data was divided into two groups,

with the first group comprising 48 patients receiving spinal anesthesia with morphine and the second group receiving general anesthesia.

Results: We diagnosed women's diseases and found that the prevalence of ovarian cancer was 37.3% in patients with general anesthesia, compared to 37.7% in patients with spinal anesthesia. Intraoperative intravenous sufentanil was administered to (40 ± 21) patients undergoing spinal anaesthesia and to (49 ± 21) patients under general anaesthesia. There was no significant difference in Crystalloids administered between the two groups; patients undergoing spinal anaesthesia received (1588 ± 515) mL, while patients under general anaesthesia received (1606 ± 651) mL. Morphine was used by eight patients (16.67%) in the spinal anaesthesia group, compared to only two patients (6%) in the general anaesthesia group. The incidence of ketamine use in patients undergoing spinal anaesthesia was found to be 4.17% (n=2) compared to 3.03% (n=1) in patients receiving general anaesthesia. Albumin was utilised in 12.5% (n=6) of patients receiving spinal anaesthesia; conversely, only one patient in the general anaesthesia group received Albumin.

Conclusion: General anaesthesia was deemed an optimal treatment for female patients undergoing hysterectomy, as those who received this type of anaesthesia experienced a superior standard of postoperative recuperation.

INTRODUCTION

Abdominal hysterectomy is one of the most performed gynaecological procedures for the treatment of multiple gynaecological pathologies, 90% of which are benign [1,2]. There are different surgical approaches to perform this procedure, and with the introduction of laparoscopic technique and, more recently, robotic technique, minimally invasive approaches are possible and have resulted in lower morbidity. However, despite the availability of minimally invasive techniques, the open abdominal approach is still the most common, accounting for more than 50% of all hysterectomies. [3-7]

In the United States, one in nine women undergoes a hysterectomy, with approximately 400,000 to 600,000 of these procedures performed annually, of which 54.2% are abdominal, 16.7% vaginal, and 16.8% laparoscopic or robotic [8]. At the Rafael Calvo Maternity Clinic, approximately 314 hysterectomies were performed in 2013-2016, of which 71% were abdominal, 15% laparoscopic and 13% vaginal. From an anaesthesia/analgesia point of view, post-operative pain has become a challenge in anaesthesia, for which the search for new mechanisms to avoid it continues, thus reducing the morbidity associated with its presence.

However, despite pharmacological advances and surgical techniques, post-operative pain management is an area that still needs improvement. Pain after hysterectomy has been shown to be common, and a national survey in the USA found that 74% of post-operative patients reported moderate pain after discharge, and about 28% reported severe pain. In addition, 15% of women report pain as a new symptom after hysterectomy, while 3 to 5%, the same as those who had pain before surgery, report increased pain. [9-14]

This is where the importance of good post-operative analgesic control lies because the presence of pain after surgery represents an increased cost to the system and a deterioration in the quality of life of the women who suffer from it, as it can become chronic in which case it would increase morbidity for the patients. Swenson et al. studied the new chronic use of opioids in 24331 hysterectomised patients, with an incidence of 0.5%, but 50% of them were operated by abdominal route and 76% for benign pathologies. Similarly, Thompson et al. describe an increase in the percentage of postoperative hysterectomy patients prescribed opioids from 2004 to 2014, with rates ranging from 25.6% to 82.1%, regardless of the type of surgery. [15,16]

Therefore, there are several strategies for the management of postoperative pain, among which spinal anaesthesia and analgesia are included as the main modality for the management of postoperative pain in hysterectomy due to the results of less requirement of postoperative analgesia with this anaesthetic technique compared to general anaesthesia. A local anaesthetic is used in combination with opioids, mainly morphine, because of its hydrophilic properties, which gives a slow onset of action and provides analgesia for 24 hours with doses of 100 - 200 mcg intrathecal, but this administration carries the risk of side effects such as delayed respiratory depression, nausea and vomiting, pruritus and urinary retention [17-20]. This duration is not possible when morphine is administered intravenously; its clinical duration is also not easily understood when it is administered intrathecally since the time of elimination of the cerebrospinal fluid is 73-140 minutes, which means a stay of about 6-12 hours; the most rational explanation is that the persistence time in its medullary biophase is greater than that of the cerebrospinal fluid, but its important characteristic of a drug with rostral progression, produces a supraspinal effect that could be the complement of the observed long-lasting analgesia [21,22].

PATIENTS AND METHODS

This paper presents a cross-sectional study that examined the impact of anesthesia on patients who underwent hysterectomy. The study analysed the basic demographic characteristics and outcomes of women aged 35-60 before, during, and after surgery. Data were collected from hospitals in Baghdad, Iraq, between March 16th, 2022, and July 9th, 2023. Technical terms are explained when first used, and the language is clear and objective with a formal register. The text adheres to conventional academic structure and style guides and maintains a logical flow of information. It is free from grammatical errors and uses precise subject-specific vocabulary where appropriate. The study analysed clinical outcomes from 81 current cases involving intraoperative use of two types of anesthesia: spinal (48) and general anesthesia (33). The data was divided into two groups, with the first group comprising 48 patients receiving spinal anesthesia with morphine and the second group receiving general anesthesia. The study utilised SPSS software to evaluate clinical outcomes pre-and post-operatively.

The clinical demographics of patients were classified based on their BMI, with groups categorised as >30, (18.5–24), and (25.0–29). Preoperative comorbidities, including Anemia, Cardiovascular disease, Chronic obstructive pulmonary disease, Diabetes, and Hypertension,

were defined as clinical outcomes related to patients. Additionally, our results were classified according to ASA criteria, which are segregated into three groups: ASA1, ASA2, and ASA3. We also distinguished between spinal and general anaesthesia among patients undergoing hysterectomy. In our intraoperative management findings, we identified numerous women's diseases among patients who had undergone hysterectomy, including ovarian cancer, endometrial cancer, cervical cancer, fibromatosis, and others. Additionally, our study evaluated clinical outcomes during surgery, such as duration of surgery, intraoperative intravenous administration of sufentanil, crystalloid fluids administered, urine output, intraoperative intravenous administration of morphine and ketamine, wound infiltration, patient-controlled analgesia with morphine, elastomeric pump tramadol, use of albumin, blood transfusions and occurrence of hypotension, regarding postoperative outcomes.

In terms of postoperative outcomes, our study compared patients who underwent spinal anaesthesia to those who received general anaesthesia. The study included an assessment of recovery time, postoperative mobilisation, analgesic therapy needed within the first 24 hours, discharge rates on postoperative day one, and discharge rates on postoperative day 2. In addition to this, we determined the prevalence rates of symptoms amongst patients who received surgery with spinal and general anaesthesia over time, with regards to fatigue, abdominal pain, itching, PONV, and drowsiness. We conducted a comparative analysis between spinal anaesthesia and general anaesthesia to evaluate the quality of postoperative recovery (QoR-40), considering both positive and negative aspects.

RESULTS

Table 1: Distribution of patients with hysterectomy based on age.

Variables		**Age**
N	**V**	81
	Mi	0
Me		47.7407
Med		48.0000
Mo		54.00
SD		7.50796
Var		56.369
Min		35.00
Max		60.00

Table 2: Classification rate of obesity for women patients Based on BMI.

		Number of patients	**Percentage (%)**
V	>30	56	69.1
	18.5 – 24	12	14.8
	25.0 – 29	13	16.0
	T	81	100.0

Table 3: Intraoperative outcomes of women patients with comorbidities.

Parameters		**Number of patients**	**Percentage (%)**
V	Anemia	7	8.6
	Cardiovascular disease	7	8.6
	Chronic obstructive pulmonary disease	8	9.9
	Diabetes	17	21.0
	Hypertension	42	51.9
	T	81	100.0

Table 4: ASA classification.

Parameters		**Number of patients**	**Percentage (%)**
V	**ASA1**	20	24.7
	ASA2	52	64.2
	ASA3	9	11.1
	T	**81**	**100.0**

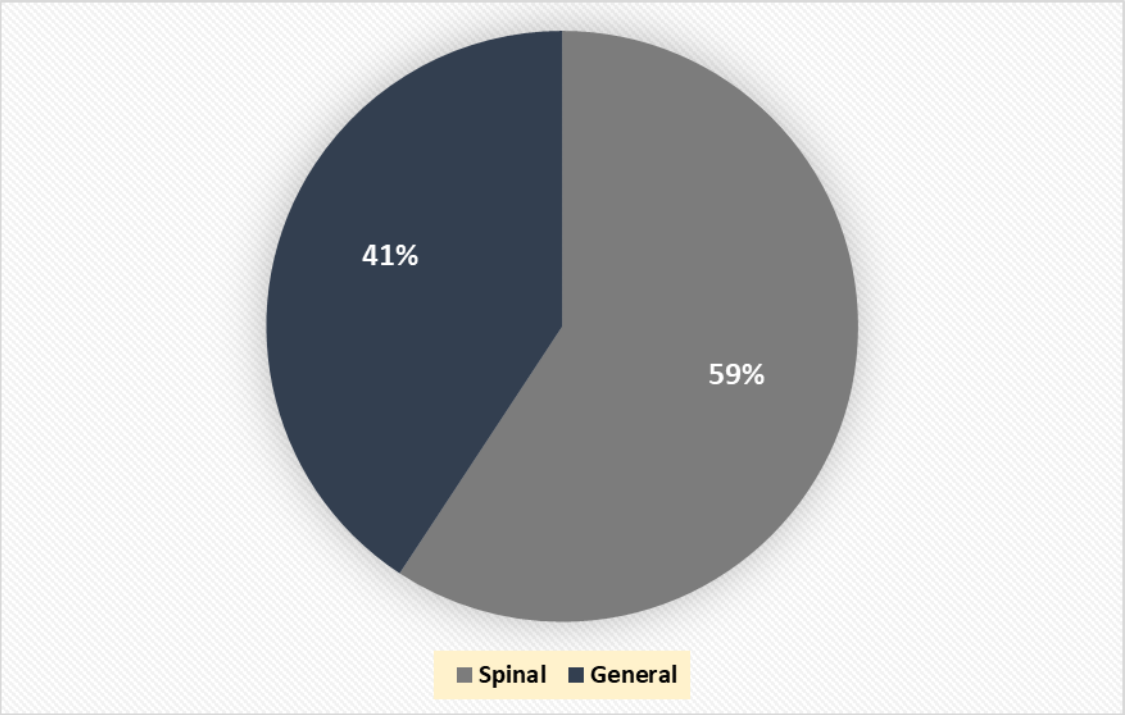


Figure 1: Identify types of anesthesia used for patients who underwent hysterectomy.

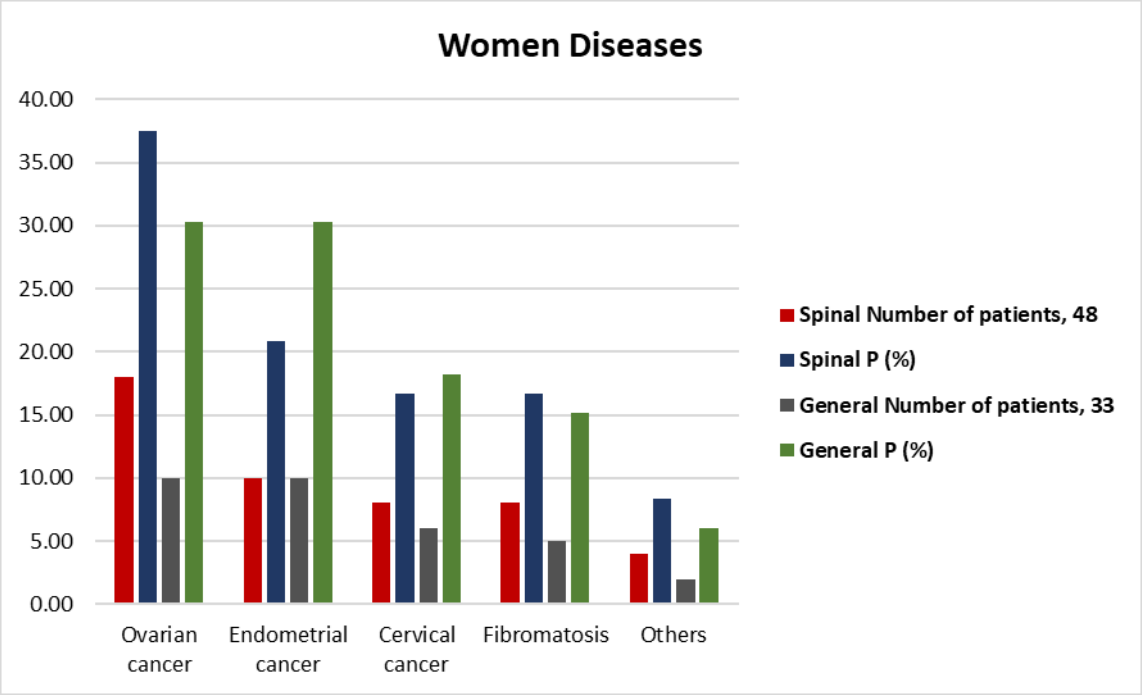


Figure 2: Intraoperative outcomes of diagnosed patients who underwent hysterectomy.

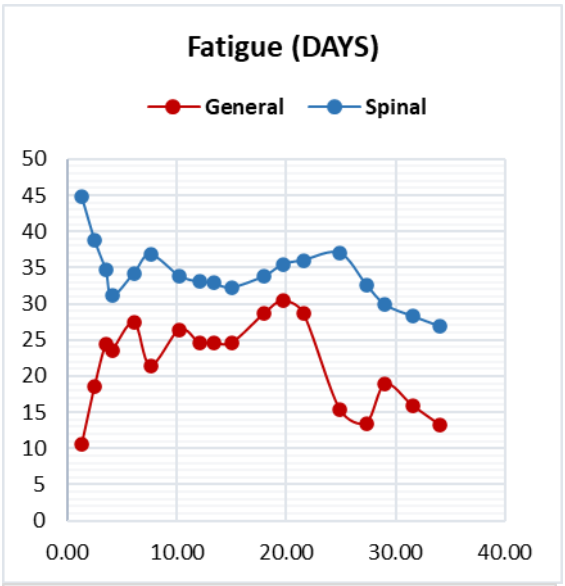
Table 5: Determine the basic outcomes of patients undergone surgery for all types of spinal and general anaesthesia.

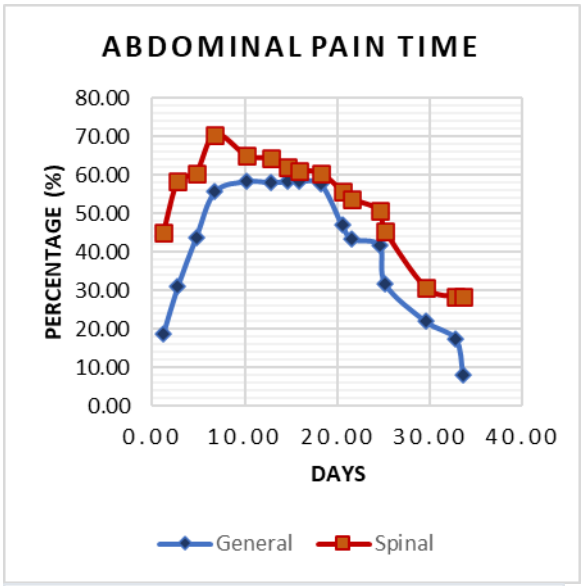
Parameters	**Patients under spinal anaesthesia, (48)**	**Patients under general anaesthesia, (33)**
Surgery duration (min)	160 ± 62	164 ± 71

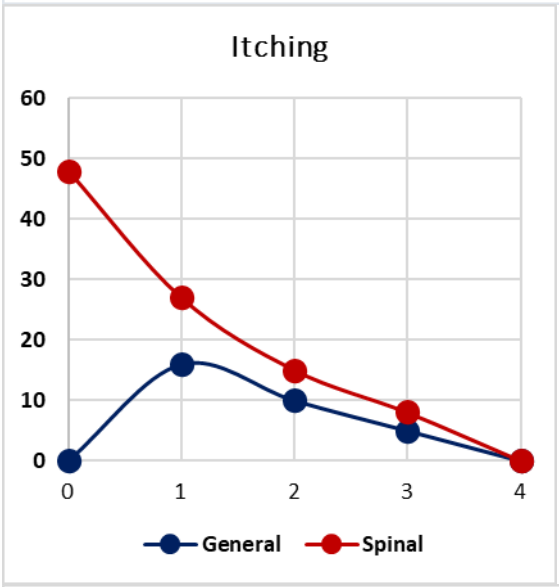
Intraoperative intravenous sufentanil (mcg)	40 ± 21	49 ± 21
Crystalloids (mL)	1588 ± 515	1606 ± 651
Urine output (mL)	355 ± 220	461 ± 671
Intraoperative intravenous morphine	8 (16.67%)	2 (6.06%)
Intraoperative intravenous ketamine	2 (4.17%)	1 (3.03%)
Wound infiltration	3 (6.25%)	1 (3.03%)
PCA morphine	4 (8.33%)	2 (6.06%)
Elastomeric pump tramadol	3 (6.25%)	2 (6.06%)
Albumin use	6 (12.5%)	1 (3.03%)
Blood transfusion	5 (10.42%)	4 (12.12%)
Hypotension	8 (16.67%)	5 (15.15%)

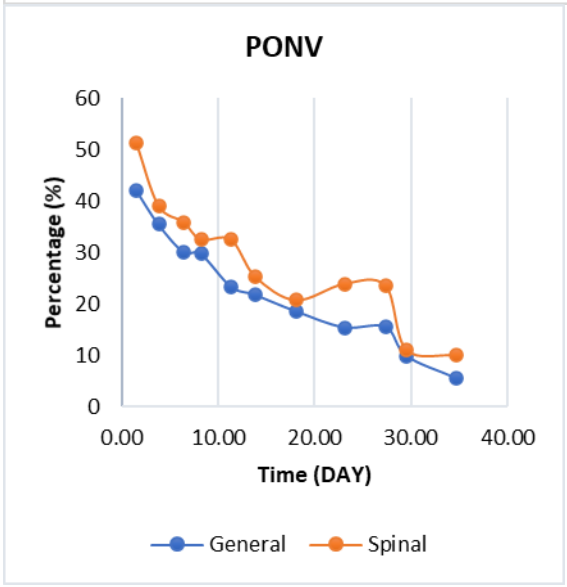
Table 6: Determine patients' outcomes who underwent into two spinal and general anesthesia after surgery.

Post-operative outcomes	**Patients under spinal anaesthesia, (48)**	**Patients under general anaesthesia, (33)**
Recovery room, time (minutes)	87 ± 50	123 ± 90
Postoperative mobilization (day)	1.35 ± 0.9	1.40 ± 0.5
Rescue analgesic therapy during the first 24 h	5 (10.42%)	2 (6.06%)
Discharge on postoperative day 1	2 (4.17%)	5 (15.15%)
Discharge on postoperative day 2	17 (35.42%)	11 (33.33%)









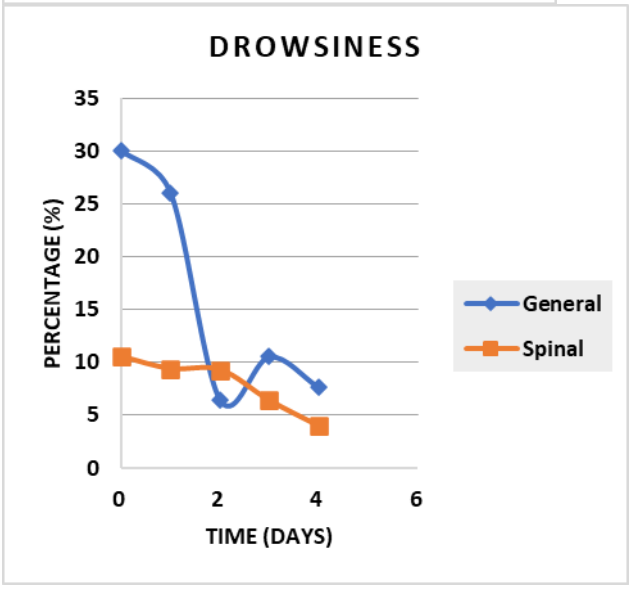


Figure 3: Prevalence rate of symptoms for patients who undergone surgery with spinal and general anaesthesia after surgery.

Table 7: Assessment of the quality of postoperative recovery (QoR-40) in comparison between spinal anaesthesia and general anaesthesia.

QOR-40	PATIENTS UNDER SPINAL ANAESTHESIA, (48)	PATIENTS UNDER GENERAL ANAESTHESIA (33)
GOOD	40 (83.33%)	30 (90.91%)
BAD	8 (16.67%)	3 (9.09%)

DISCUSSION

Our study examined the role of anaesthesia in Iraqi women who received Hysterectomy treatments between the ages of 35 and 60. The results revealed that 69.1% of female patients had a BMI classification above 30, while 51.9% of patients had hypertension as a comorbidity. Additionally, 64.2% of patients were classified as ASA 2. Our study identified the types of anesthesia used in surgery. It was found that 59% of patients received spinal anesthesia while 41% received general anesthesia. We also diagnosed women's diseases and found that the prevalence of ovarian cancer was 37.3% in patients with general anesthesia, compared to 37.7% in patients with spinal anesthesia. Additionally, the surgical time was (160 ± 62) minutes for patients under spinal anesthesia and (164 ± 71) minutes for patients under general anesthesia. Intraoperative intravenous sufentanil was administered to (40 ± 21) patients undergoing spinal anaesthesia and to (49 ± 21) patients under general anaesthesia. There was no significant difference in Crystalloids administered between the two groups; patients undergoing spinal anaesthesia received (1588 ± 515) mL, while patients under general anaesthesia received (1606 ± 651) mL. Morphine was used by eight patients (16.67%) in the spinal anaesthesia group, compared to only two patients (6%) in the general anaesthesia group. The incidence of ketamine use in patients undergoing spinal anaesthesia was found to be 4.17% (n=2) compared to 3.03% (n=1) in patients receiving general anaesthesia. Albumin was utilised in 12.5% (n=6) of patients receiving spinal anaesthesia; conversely, only one patient in the general anaesthesia group received Albumin. Additionally, 16.67% (n=8) of patients under spinal anaesthesia experienced hypotension during surgery, while 5 (15.15%) for patients with general.

Our study investigated the post-operative outcomes of patients undergoing spinal or general anesthesia. The findings indicate that patients undergoing spinal anesthesia spent significantly less time in the Recovery room (87 ± 50 minutes) compared to those under general anesthesia (123 ± 90 minutes). Furthermore, the rate of discharges on postoperative day 1 was lower for patients under spinal anesthesia (4.17%) than those under general anesthesia (15.15%). On postoperative day 2, the percentage of discharges was higher for patients with spinal anesthesia (35.42%) compared to those with general anesthesia (33.33%). These results suggest that spinal anesthesia may lead to shorter hospital stays and quicker recovery times for patients.

Furthermore, our results indicated a prevalence rate of symptoms for patients who underwent surgery with either spinal or general anaesthesia. Patients who received spinal anaesthesia reported experiencing fatigue and abdominal pain for 20 days after surgery, with a subsequent decrease in symptoms over the following 50 days. In contrast, patients who had

general anaesthesia did not report any significant symptoms. In addition, the rate of itching among enrolled patients increased on the first day and decreased on the fourth day, while patients who received general anesthesia experienced a decline in itching. There was a significant difference between the two groups in terms of PONV and drowsiness, with PONV being higher among patients who received spinal anesthesia, while a greater percentage of patients who received general anesthesia reported experiencing drowsiness. The study evaluated the post-operative recovery quality (QoR-40) in patients who underwent either spinal anaesthesia or general anaesthesia. Results showed that patients who received spinal anaesthesia had excellent recovery with a score of 40 (83.33%), whereas those who underwent general anaesthesia had a score of 30 (90.91%).

Last studies were indicated that general anesthesia showed better recovery times compared to spinal anesthesia for hysterectomy. However, patients under spinal anesthesia had shorter operating times and less blood loss than others who received general anesthesia as well as patients who received spinal anesthesia presented a lower analgesic requirement in the immediate postoperative period [23].

Other studies confirmed that general anaesthesia was associated with a decrease in abdominal pain for patients after surgery compared with spinal anaesthesia. In contrast, some study was found that spinal anaesthesia improved postoperative analgesia with the better surgeon and patient satisfaction than general anaesthesia, as well as morphine, used intrathecally, showed less postoperative discomfort in patients with spinal anaesthesia compared with general anaesthesia while bleeding was lower in patients who underw hysterectomy by general anaesthesia compared with spinal anaesthesia. [24]

CONCLUSION

Our findings suggest that patients who underwent a hysterectomy by Laparoscopic with general anesthesia had better postoperative recovery after the first days of surgery compared to patients who received spinal anesthesia. The rate of abdominal pain after surgery in patients under general anesthesia declined when compared to patients under spinal anesthesia, as well as itching and PONV (%).

REFERENCES

1. Melo M.C.B., Barros É.N.D. Histerectomia e simbolismo do útero: possíveis repercussões na sexualidade feminina. Rev SBPH. 2009; 12:80–99.
2. Lee W.K., Kim M.S., Kang S.W., Kim M.S., Lee J.R. Type of anaesthesia and patient quality of recovery: a randomized trial comparing propofol-remifentanil total i.v. Anaesthesia with desflurane anaesthesia. Br J Anaesth. 2015; 114:663–668.
3. Poitras S., Beaule P., Dervin G.F. Validity of a short-term quality of life questionnaire in patients undergoing joint replacement: the Quality of Recovery-40. J Arthroplasty. 2012; 27:1604–1608.
4. Kluivers K.B., Riphagen I., Vierhout M.E., Brölmann H.A., de Vet H.C. Systematic review on recovery specific quality-of-life instruments. Surgery. 2008; 143:206–215.
5. Murphy G.S., Szokol J., Greenberg S.B., et al. Preoperative dexamethasone enhances the quality of recovery after laparoscopic cholecystectomy: effect on in-hospital and post-discharge recovery. Anesthesiology. 2011; 114:882–890.

6. Estivalet F.F., Bagatini A., Gomes C.R. Remifentanil associated to propofol or sevoflurane for videolaparoscopic cholecystectomy: a comparative study. Rev Bras Anestesiol. 2002; 52:385–393.
7. Myles P.S., Weitkamp B., Jones K., Melick J., Hensen S. Validity and reliability of a postoperative quality of recovery score: the QoR-40. Br J Anaesth. 2000; 84:11–15.
8. Myles P.S., Hunt J.O., Nightingale C.E., et al. Development and psychometric testing of a quality of recovery score after general anesthesia and surgery in adults. Anesth Analg. 1999; 88:83–90.
9. Gornall B.F., Myles P.S., Smith C.L., et al. Measurement of quality of recovery using the QoR-40: a quantitative systematic review. Br J Anaesth. 2013; 111:161–169.
10. Eduardo A.H.A., Santos CB, Carvalho A.M.P., Carvalho E.C. Validation of the Brazilian version of the Quality of Recovery - 40 Item questionnaire. Acta Paul Enferm. 2016; 29:253–259.
11. Pereira L.G., Costa M., Sousa G., Abelha F. Quality of recovery after anaesthesia measured with QoR-40: a prospective observational study. Braz J Anesthesiol. 2016; 66:369–375.
12. Mihara T., Ishii T., Ka K., Goto T. Effects of steroids on quality of recovery and adverse events after general anesthesia: meta-analysis and trial sequential analysis of randomized clinical trials. PLoS One. 2016;11
13. Moro E.T., Silva M.A., Couri M.G., Issa D.D., Barbieri J.M. Quality of recovery from anesthesia in patients undergoing orthopedic surgery of the lower limbs. Rev Bras Anestesiol. 2016; 66:642–650.
14. Myles P.S., Myles D.B., Galagher W., Chew C., MacDonald N., Dennis A. Minimal clinically important difference for three quality of recovery scales. Anesthesiology. 2016; 125:39–45.
15. Ali A., Altun D., Oguz B.H., Ilhan M., Demircan F., Koltka K. The effect of preoperative anxiety on postoperative analgesia and anesthesia recovery in patients undergoing laparascopic cholecystectomy. J Anesth. 2014;28:222–227.
16. Wu C.L., Rowlingson A.J., Partin A.W., et al. Correlation of postoperative pain to quality of recovery in the immediate postoperative period. Reg Anesth Pain Med. 2005;30:516–522.
17. Kubulus C., Schmitt K., Albert N., et al. Awake, sedated, or anaesthetised for regional anaesthesia block placements? a retrospective registry analysis of acute complications and patient satisfaction in adults. Eur J Anaesthesiol. 2016; 33:715–724.
18. Royse C.F., Chung F., Newman S., Stygall J., Wilkinson D.J. Predictors of patient satisfaction with anaesthesia and surgery care: a cohort study using the Postoperative Quality of Recovery Scale. Eur J Anaesthesiol. 2013; 30:106–110.
19. Myles P.S., Williams D.L., Hendrata M., Anderson H., Weeks A.M. Patient satisfaction after anaesthesia and surgery: results of a prospective survey of 10,811 patients. Br J Anaesth. 2000; 84:6–10.
20. Castro-Alves L.J.S., De Azevedo V.L.F., Braga T.F.D.F., Goncalves A.C., et al. The effect of neuraxial versus general anesthesia techniques on postoperative quality of recovery and analgesia after abdominal hysterectomy: a prospective, randomized, controlled trial. Anesth Analg. 2011;113:1480–1486.
21. Pöpping D., Elia N., Van Aken H., et al. Impact of epidural analgesia on mortality and

morbidity after surgery: systematic review and meta-analysis of randomized controlled trials. Annals Surg. 2014;259:1056–1067.

22. Elkassabany N., Cai L.F., Mehta S., et al. Does regional anesthesia improve the quality of postoperative pain management and the quality of recovery in patients undergoing operative repair of tibia and ankle fractures? J Orthopaedic Trauma. 2015; 29:404–409.
23. Abdallah F.W., Morgan P.J., Cil T., et al. Ultrasound-guided multilevel paravertebral blocks and total intravenous anesthesia improve the quality of recovery after ambulatory breast tumor resection. Anesthesiology. 2014; 120:703–713.
24. Schraag S, Pradelli L, Alsaleh Ajo, et al. Propofol vs. inhalational agents to maintain general anaesthesia in ambulatory and in-patient surgery: a systematic review and meta-analysis. BMC Anesthesiol. 2018; 18:162.