



CODEN [USA]: IAJPBB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF  
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.1307386>Available online at: <http://www.iajps.com>

Research Article

**OUTCOMES OF GENERAL ANAESTHESIA AND SPINAL  
ANAESTHESIA IN LOWER ABDOMINAL LAPAROSCOPIC  
SURGERIES**<sup>1</sup> Dr. Hamid Raza, <sup>2</sup> Dr. Khurram Abbas, <sup>3</sup> Dr. Khalida Shaikh,  
<sup>4</sup> Dr. Vijay Kumar, <sup>4</sup> Dr. Imran Karim and <sup>4</sup> Dr. Amir Khan<sup>1</sup> Assistant Professor of Anesthesiology Department of Anesthesia & Intensive Care Unit, Liaquat University of Medical and Health Sciences (LUMHS) Jamshoro<sup>2</sup> Department of Surgery Liaquat University of Medical and Health Sciences (LUMHS) Jamshoro<sup>3</sup> Department of Physiology Liaquat University of Medical and Health Sciences (LUMHS)  
Jamshoro<sup>4</sup> Liaquat University Hospital Hyderabad / Jamshoro**ABSTRACT:****OBJECTIVE:** To compare the outcomes of general anesthesia and spinal anesthesia in lower abdominal laparoscopic surgeries at tertiary care teaching hospital**PATIENTS AND METHODS:** The cross sectional study consistent of patients 20-50 year, either gender underwent lower abdominal laparoscopic surgeries by general anesthesia and spinal anesthesia. The detail history was taken and all the patients were monitored for any evidence of complications or adverse events while the data was manipulated in SPSS to get frequencies, percentages and mean  $\pm$ SD.**RESULTS:** During study period total twenty five patients in each (general and spinal anesthesia) group were placed. The mean age  $\pm$ SD (yrs) for overall population was  $33.86 \pm 8.95$  (SD) with male gender predominance in both group (60% in general anesthesia group and 68% in spinal group) while the postoperative pain was observed in 07 (28%) and 06 (24%) in general and spinal anesthesia group whereas the postoperative vomiting was detected in 09 (36%) and 03 (12%) in general and spinal anesthesia group patients.**CONCLUSION:** The spinal anesthesia is safe, feasible, and effective than general anesthesia and provides stable hemodynamic, pain free post-operative period & minimal post operative complications.**KEYWORDS:** Laparoscopic surgery, Spinal anesthesia and General anesthesia.**Corresponding author:****\* Dr. Hamid Raza,**

Department of Anesthesia &amp; Intensive Care Unit,

Liaquat University of Medical and Health Sciences (LUMHS),

Jamshoro

Email: [zulfikar229@hotmail.com](mailto:zulfikar229@hotmail.com)

QR code



Please cite this article in press Hamid Raza et al., *Outcomes of General Anaesthesia and Spinal Anaesthesia in Lower Abdominal Laparoscopic Surgeries*, Indo Am. J. P. Sci, 2018; 05(05).

**INTRODUCTION:**

The principal laparoscopic cholecystectomy which may be viewed as the introduction of negligibly obtrusive medical procedure was performed by Philippe Mouret in Lyons in walk 1987 [1]. Following this, the strategy spread worldwide and different specialties, for example, urology, gynecology and thoracic medical procedure built up their own applications for endoscopic methods [2]. Be that as it may, new surgeries mean new soporific difficulties requesting changes in anesthesia strategies [3]. Expanding perioperative proficiency has turned out to be progressively vital in the cutting edge routine with regards to anesthesiology. The part of the anesthesiologist has developed from that of a doctor basically worried about giving ideal careful conditions and limiting torment promptly after the activity, to that of a perioperative doctor in charge of guaranteeing that patients with coinciding medicinal conditions are ideally overseen previously, amid and after surgery [4]. The objective of soporific administration in patients experiencing laparoscopic surgeries incorporate administration of pneumoperitoneum, accomplishing sufficient level of tangible bar, administration of shoulder tip torment, arrangement of postoperative help with discomfort satisfactory to anticipate decay of respiratory mechanics, and ambulation as ahead of schedule as would be prudent [5]. General anesthesia as the main reasonable strategy for laparoscopic methods is an idea of the past. Expanded presser reaction to endotracheal intubation, expanded pressure hormone discharge, sore throat, post-agent agony, sickness and retching are the hindrances of utilizing general anesthesia [6]. There is developing confirmation recommending that local anesthesia has an imperative part to play being taken care of by patients experiencing laparoscopic methodology. Territorial anesthesia, for example, epidural and spinal is another option for general anesthesia for laparoscopic medical procedure [7]. Our study is intended to assess the possibility and safety of spinal and general

anesthesia during laparoscopic medical procedures and to analyze the intraoperative careful conditions, haemodynamic changes with general anesthesia and post-operative prerequisite of safeguard pain relieving and occurrence of post operative nausea and vomiting.

**PATIENTS AND METHODS:**

The present study was done to compare outcomes of spinal anesthesia and general anesthesia for lower abdominal laparoscopic surgeries. The inclusion criteria were age group of 16-60 years, either gender, patients coming for elective laparoscopic surgeries e.g. laparoscopic appendectomy, tubal ligation, ovarian cystectomy, diagnostic laparoscopy and laparoscopic lymph node biopsy while the exclusion criteria infection at the site of injection, coagulopathy or on anti coagulation treatment and history of allergy to local anesthesia medications. The detail history was taken and allotted either general anesthesia or spinal block group accordingly after taking informed consent. The individuals were carefully monitored for any adverse outcome and also explored and followed for post operative complications while the results are expressed in tables by using SPSS and frequencies, percentages and mean  $\pm$ SD was calculated.

**RESULTS:**

During study period total twenty five patients in each (general and spinal anesthesia) group were placed. The mean age  $\pm$ SD (yrs) for overall population was  $33.86 \pm 8.95$  (SD) with male gender predominance in both group (60% in general anesthesia group and 68% in spinal group) while the postoperative pain was observed in 07 (28%) and 06 (24%) in general and spinal anesthesia group whereas the postoperative vomiting was detected in 09 (36%) and 03 (12%) in general and spinal anesthesia group patients. The demographical and clinical profile of patients is presented in Table 01 while the outcome is presented in Table 02.

**TABLE 01: THE DEMOGRAPHICAL AND CLINICAL PROFILE OF STUDY POPULATION**

Parameter	Frequency (n=25 %)	
	General Anesthesia	Spinal Anesthesia
<b>AGE (yrs)</b>		
20-29	04 (16%)	02 (8%)
30-39	12 (48%)	10 (40%)
40-49	05 (20%)	08 (32%)
50+	04 (16%)	05 (20%)
<b>GENDER</b>		
Male	15 (60%)	17 (68%)
Female	10 (40%)	08 (32%)
<b>Changes in Pulse rate</b>		
Preoperative	79.5 ±8.42	77.8 ±9.85
1 minute	108.4 ±8.52	79.9 ±8.65
2 minute	110.4 ±9.54	80.7 ±6.54
3 minute	102.5±6.65	75.3±5.74
30 minute	101.8 ±9.85	73.8 ±9.52
60 minute	99.96±8.85	72.7±5.81
<b>Changes in systolic blood pressure</b>		
Preoperative	122.9 ±10.5	122.9±9.52
1 minute	125.8 ±7.7	117.8±9.53
2 minute	128.5±7.72	113.9±5.43
3 minute	134.8 ±7.75	111.5±6.92
30 minute	137.4±9.92	110.8±5.75
60 minute	142.9±6.95	108.9±7.72
<b>Changes in systolic blood pressure</b>		
Preoperative	78.9 ±8.88	81.9±6.32
1 minute	80.9±7.53	77.9±7.66
2 minute	81.4±9.52	75.9±4.72
3 minute	84.9 ±8.83	74.9±3.75
30 minute	87.9±5.93	72.8±4.54
60 minute	90.92±3.85	71.6±5.65

**TABLE 02: THE OUTCOME OF GENERAL ANESTHESIA AND SPINAL ANESTHESIA**

Parameter	Frequency (%)	Percentage (%)
	General Anesthesia	Spinal Anesthesia
<b>Pain</b>		
Yes	07 (28%)	06 (24%)
No	18 (72%)	19 (76%)
<b>Postoperative nausea &amp; vomiting</b>		
Yes	09 (36%)	03 (12%)
No	16 (64%)	22 (88%)

**DISCUSSION:**

General anesthesia has remained the most acknowledged methodology of anesthesia since it gives finish absence of pain amid the strategy, the patient being totally sleeping and not realizing what is happening [8]. Be that as it may, the intricacies related with general anesthesia, for example, lessening in the useful lingering limit and aggregate lung limit, bringing about basal atelectasis, expanded aviation route weights and ascend in CO<sub>2</sub>, post-agent course of the patients with higher frequency of torment, higher occurrence of sickness and spewing; and delayed doctor's facility stay bringing about higher doctor's facility costs has prompt the inquiry whether the traditionally acknowledged methodology of anesthesia, general anesthesia, is for sure a best quality level [9]. The requirement for an elective methodology of anesthesia has prompted examining different alternatives throughout the years [10]. A standout amongst the most effectively utilized choices is spinal anesthesia. Different investigations in regards to its attainability, tolerant solace amid and after the system, occurrence of post agent difficulties, recuperation from anesthesia, ambulation, healing facility stay and cost adequacy have been led demonstrating that it is surely a decent other option to general anesthesia, superior to general anesthesia in different circumstances [11]. All dangers of spinal anesthesia are as yet present, and symptoms, for example, hypotension, bradycardia, urinary maintenance, and others, ought not out of the ordinary in their standard rates [12]. An over calmed patient or patients with postponed gastric purging risk

desire [13]. The most imperative worry in a patient experiencing the technique under provincial anesthesia is the event of shoulder tip torment/distress [14]. Cognizant sedation encourages spinal anesthesia for laparoscopic medical procedure. The spinal itself can give enough patient solace without sedation [15]. A few patients in our study and various others have had medical procedures performed while totally conscious, viewing the strategy on a screen. Our study contrasted general anesthesia and spinal anesthesia, the object is to show that laparoscopic medical procedure can securely and viably be performed with the patient under spinal anesthesia, permitting the specialist and anesthesiologist a full supplement of absence of pain for the system. Fruitful execution of laparoscopic medical procedure under spinal anesthesia requires talented specialist who is knowledgeable with endo-life structures and an accomplished anesthesiologist [16]. Our underlying knowledge with laparoscopic medical procedure under spinal anesthesia seems promising. We infer that system is actually protected and achievable with astounding recuperation and high level of fulfillment in chose patients. Expansive randomized control preliminaries are required before suggesting this procedure in bigger populace.

**CONCLUSION:**

The spinal anaesthesia is safe, feasible, and effective than general anaesthesia and provides stable haemodynamics, pain free post-operative period & minimal post operative complications.

**REFERENCES:**

1. Hensel M, Schwenk W, Bloch A, et. Al. The role of Anaesthesiology in fast track concepts of colonic surgery. *Anesthesiology* 2006; 55:80-92
2. White PF, Kehlet H, Joseph M. The role of Anesthesiologist in fast track surgery: From multimodal analgesia to perioperative medical care. *Anesth Analg* 2007;104:1380-96
3. Gannedahl P, Odeberg B, Brodin LA, Sollevi A. Effects of posture and pneumoperitonium during anaesthesia on left ventricular filling. *Acta Anaesthesiol Scand* 1996;40:160-6
4. Sinha R, Gurwara AK, Gupta SC. Laparoscopic Cholecystectomy under spinal anaesthesia: A study of 3492 patients. *J of Laparoendoscopy advances in surgical technique A*. 2009 June; 19 (3) : 323-7
5. Tzovaras G, Fafonlakis F, Prastas K, Georgopoulou S, Stamatiou G. Spinal vs general anaesthesia for laparoscopic cholecystectomy: Interim analysis of a control randomized trial. *Arch Surg* 2008 may; 143 (5):497-501
6. Colin RC, Vaghadia H, Metcalf GW, Pamela MM. Small dose hypobaric lidocaine-fentanyl spinal anaesthesia for short duration outpatient laparoscopy, optimal fentanyl dose. *Anesth Analg* 1997;84:65-70
7. Yuksel YN, Akat AZ, Gozalan U. Laparoscopic cholecystectomy under spinal anaesthesia. *Am J Surg*. 2008 April;195 (4):533-6
8. Mehta PJ, Chavda HR, Wadhwa AP. Comparative analysis of spinal vs general anaesthesia for laparoscopic cholecystectomy; A controlled, prospective, randomized trial. *Anesth Essays Res* 2010;4:91-5
9. Aurog Y, Narehi P , Messiah A. Serious complications related to regional anaesthesia. *Anesthesiology* 1997 ; 87: 479-86.
10. Pamela H L, Vaghadia H, Cynthia H, Lynn M, Mitchell G W E. Small-dose SSA for short duration outpatient laparoscopy: recovery characteristics compared to desflurane anaesthesia. *Anaesthesia Analgesia* 2002;94:346-50
11. Bernd H, Axel J, Joachim K, et al. The incidence and risk factors for hypotension after spinal anaesthesia induction: an analysis with automated data collection. *Anesth Analg*. 2002;94:152–1529
12. Palachewa K, Chau-In W, Naewthong P, Uppan K, Kamhom R. Complications of spinal anaesthesia at Stinagarind Hospital. *Thai J Anesth*. 2001;27:1,7–12.
13. Putensen-Himmer G, Putensen CH, Lammer H, Haisjack IM. Comparison of postoperative lung function in patient undergoing laparotomy or laparoscopy for cholecystectomy. *Am Rev Resp Dis*. 1992;145:A156.
14. Zundert A.A.J.V, Stultiens G, Jakimowicz J.J, Peek D. Laparoscopic cholecystectomy under segmental thoracic spinal anaesthesia: a feasibility study. *Br J Anaesth* 2007; 98: 682-6
15. Hamad MA, Ibrahim EI-Khattary OA. Laparoscopic cholecystectomy under spinal anaesthesia with nitrous oxide pneumoperitoneum: a feasibility study. *Surg Endosc*. 2003;17:1426–1428.
16. Vaghadia H, McLeod DH, Mitchell GW, Merrick PM, Chilvers CR. Small-dose hypobaric lidocaine-fentanyl spinal anaesthesia for short duration outpatient laparoscopy. I. A randomized comparison with conventional dose hyperbaric lidocaine. *Anesth Analg*. 1997;84(1):59–64.