

A study of patient's satisfaction and various complications occurred during spinal anesthesia used for laparoscopic appendectomy

Abhijeet Kumar Sharma^{1*}, Santosh Kumar², Ajeet Kumar³

¹Assistant Professor, ²SR, ³Ex-Professor and HOD, Department of Anaesthesia, CIP Ranchi, INDIA.

Email: drjosh9376@gmail.com

Abstract

Background: Laparoscopic appendectomy (LA) is the most commonly performed intra-abdominal operation. **Aims and Objectives:** To study patient's satisfaction and various complications occurred during spinal anesthesia used for laparoscopic appendectomy. **Methodology:** This was a cross sectional study carried out in the department of Anesthesiology of a tertiary health care during the one-year period i.e. January 2017 to January 2018 in the patients undergone spinal anesthesia for the laparoscopic appendectomy, during the one year after written consent 66 patients were included into the study. The patients satisfaction was noted as fully satisfied, Partly Satisfied, Not satisfied. The data is presented in Tabular form and expressed in percentages. **Result:** In our study we have seen that The majority of the patients were in the age group of in the age group of 30-40 were 31.82%, 40 -50 were 28.79%, 20-30 were 18.18%, 50-60 were 13.64%, and andgt;60 were 7.58%. The majority of the patients were Male i.e. 57.58% and Female were 42.42%. The most common complications were Nausea and vomiting in 31.82%, followed by Post-dural-puncture headache in 25.76, Urinary retention in 13.64%, Transient neurological symptoms in 7.58%, Mild hypotension in 4.55%, Bradycardia in 3.03%, lower back pain with pain in the legs in 3.03%. The majority of the patients were satisfied i.e. 68.18% were Fully satisfied, 18.18 % were Partly Satisfied, 13.64% Not satisfied. **Conclusion:** It can be concluded from our study that the most common complications were Nausea and vomiting followed by Post-dural-puncture headache, Urinary retention, Transient neurological symptoms, Mild hypotension etc. and majority patients were satisfied with the spinal anesthesia

Key Word: Spinal anesthesia, Laparoscopic appendectomy, Post-dural-puncture headache.

*Address for Correspondence:

Dr. Abhijeet Kumar Sharma, E 301 Vikhramshila Vatika, Near Shiv Mandir Chesire Home Road Bariatu, Ranchi 834009.

Email: drjosh9376@gmail.com

Received Date: 09/11/2018 Revised Date: 17/12/2018 Accepted Date: 04/01/2019

DOI: <https://doi.org/10.26611/1015919>

Access this article online

Quick Response Code:



Website:

www.medpulse.in

Accessed Date:
11 January 2019

INTRODUCTION

Laparoscopic appendectomy (LA) is the most commonly performed intra- abdominal operation. Semm¹

first introduced the laparoscopic method for appendectomy in the early 1980s. Since then laparoscopic appendectomy was made popular by various surgeons and preferred over the open method due to its inherent advantages.² General anesthesia with positive pressure ventilation is the preferred mode of anesthesia in this technique. Regional anesthesia has not been used as the sole anesthetic procedure other than in the scenario of a patient at high risk to undergo laparoscopic appendectomy with CO₂ pneumoperitoneum under general anesthesia. Various study already established the feasibility and safety of spinal anaesthesia for laparoscopic surgery.^{3,4} Spinal anesthesia (SA) has the advantage of providing analgesia and total muscle relaxation in a conscious and compliant

How to site this article: Abhijeet Kumar Sharma, Santosh Kumar, Ajeet Kumar. A study of patient's satisfaction and various complications occurred during spinal anesthesia used for laparoscopic appendectomy. *MedPulse International Journal of Anesthesiology*. January 2019; 9(1): 38-40. <http://medpulse.in/Anesthesiology/index.php>

patient and an uneventful postoperative recovery. At the same time, it also protects against the potential complications of general anesthesia (GA). Despite these advantages, regional anesthesia is still preferred only for patients who are at high risk for general anesthesia, and the majority of surgeons still prefer doing both open and laparoscopic procedures under GA. Thus, most of the publications and textbooks on laparoscopic surgery cite GA as the only anesthetic option for abdominal laparoscopic surgery. But, lately, occasional reports of laparoscopic surgery being performed under regional anesthesia (spinal or epidural) in selected patients have started coming in 5. Of the advantages of spinal anesthesia over general anesthesia is that the patient is awake and oriented at the end of the procedure. Second, the absence of general anesthetic side effects (e.g., nausea and vomiting) and less pain experienced due to the effect of neuraxial analgesia. Third, patients that have received spinal anesthesia tend to ambulate earlier than patients receiving general anesthesia. Finally, complications related to intubation and/or extubation is avoided in spinal anesthesia for patients undergoing laparoscopic interventions. Combining a minimally invasive surgical procedure with a less invasive anesthetic technique appears, theoretically, to further enhance the advantages of the operation⁶.

METHODOLOGY

This was a cross sectional study carried out in the department of Anesthesiology of a tertiary health care during the one-year period i.e. January 2017 to January 2018 in the patients undergone spinal anesthesia for the laparoscopic appendectomy, during the one year after written consent 66 patients were included into the study. All the patients were undergone spinal anesthesia by all aseptic precaution and standard protocol. All details of the patients like age, sex, complications of spinal anesthesia if any were noted. The patients satisfaction was noted as fully satisfied, Partly Satisfied, Not satisfied. The data is presented in Tabular form and expressed in percentages.

RESULT

Table 1: Distribution of the patients as per the age

| Age | No. | Percentage(%) |
|-------|-----|---------------|
| 20-30 | 12 | 18.18 |
| 30-40 | 21 | 31.82 |
| 40-50 | 19 | 28.79 |
| 50-60 | 9 | 13.64 |
| >60 | 5 | 7.58 |
| Total | 66 | 100.00 |

The majority of the patients were in the age group of in the age group of 30-40 were 31.82%, 40 -50 were 28.79%, 20-30 were 18.18%, 50-60 were 13.64%, and andgt; 60 were 7.58%.

Table 2: Distribution of the patients as per the sex

| Sex | No. | Percentage(%) |
|---------|-----|---------------|
| Male | 35 | 57.58 |
| Female | 28 | 42.42 |
| 42Total | 66 | 100.00 |

The majority of the patients were Male i.e. 57.58% and Female were 42.42%.

Table 3: Distribution of the patients as per the various complications

| Complication | No* | Percentage(%) |
|---------------------------------------|-----|---------------|
| Nausea and vomiting | 21 | 31.82 |
| Post-dural-puncture headache | 17 | 25.76 |
| Urinary retention | 9 | 13.64 |
| Transient neurological symptoms | 5 | 7.58 |
| Mild hypotension | 3 | 4.55 |
| Bradycardia | 2 | 3.03 |
| Lower back pain with pain in the legs | 2 | 3.03 |

(* More than one complication present in the same patients so total may be more)

The most common complications were Nausea and vomiting in 31.82%, followed by Post-dural-puncture headache in 25.76, Urinary retention in 13.64%, Transient neurological symptoms in 7.58%, Mild hypotension in 4.55%, Bradycardia in 3.03%, lower back pain with pain in the legs in 3.03%.

Table 4: Distribution of the patients as per the satisfaction to spinal anesthesia

| Satisfaction | No. | Percentage (%) |
|------------------|-----|----------------|
| Fully satisfied | 45 | 68.18 |
| Partly Satisfied | 12 | 18.18 |
| Not satisfied | 9 | 13.64 |
| Total | 66 | 100.00 |

The majority of the patients were satisfied i.e. 68.18% were Fully satisfied, 18.18 % were Partly Satisfied, 13.64% Not satisfied.

DISCUSSION

With recent technical advances, acute appendicitis is more commonly performed under laparoscopy than by open laparotomy. Laparoscopic appendectomy (LA) has shown to have considerable advantages over open appendectomy; such advantages include less postoperative pain, better cosmetic results, a shorter hospital stay, and a lower complication rate⁸. However, LA has been routinely performed under general anesthesia with endotracheal intubation despite the several disadvantages of general anesthesia compared to regional anesthesia, including hemodynamic instability, postoperative nausea and vomiting (PONV), increase in the requirement for postoperative analgesia, complications related to intubation or extubation, and a sore throat postoperatively^{9,10} Laparoscopic

appendicectomy is the gold standard for treatment of uncomplicated appendicitis. General anesthesia is regarded as safe anesthesia for laparoscopic surgery in most of the cases till now. Regional anesthesia has not been used as the sole anesthetic procedure other than in the scenario of a patient at high risk to undergo laparoscopic appendicectomy with CO₂ pneumoperitoneum under general anesthesia. Single puncture spinal anesthesia can be an easier technique than general anesthesia. 3 Monitoring of patients under spinal anesthesia is easier than general anesthesia. Complication of endotracheal intubations like damage to oral cavity, teeth, sore throat, and aspirations, failure of intubations are absent in spinal anesthesia. Cost of spinal anesthesia is far less than general anesthesia. Nausea and vomiting are less with spinal anesthesia.^{3,7} Spinal anesthesia is suitable for all the patients but general anesthesia may be not for e.g. patients with COPD, who are unfit for general anesthesia^{11,12}. In our study we have seen that The majority of the patients were in the age group of in the age group of 30-40 were 31.82% , 40 -50 were 28.79%, 20-30 were 18.18%, 50-60 were 13.64%, and andgt;60 were 7.58%. The majority of the patients were Male i.e. 57.58% and Female were 42.42%. The most common complications were Nausea and vomiting in 31.82%, followed by Post-dural-puncture headache in 25.76, Urinary retention in 13.64%, Transient neurological symptoms in 7.58%, Mild hypotension in 4.55%, Bradycardia in 3.03%, lower back pain with pain in the legs in 3.03%. The majority of the patients were satisfied i.e. 68.18% were Fully satisfied, 18.18 % were Partly Satisfied, 13.64% Not satisfied. This was similar to Manish K. Singh *et al* 13 they found Laparoscopic appendicectomy with low-pressure CO₂ pneumoperitoneum can be successfully and safely performed under spinal anesthesia. Furthermore, it seems that spinal anesthesia is associated with minimal postoperative pain and at least an equally good recovery as with general anesthesia.

CONCLUSION

It can be concluded from our study that The most common complications were Nausea and vomiting followed by Post-dural-puncture headache, Urinary retention, Transient neurological symptoms ,

Mild hypotension etc. and majority patients were satisfied with the spinal anesthesia

REFERENCES

1. Semm K. Endoscopic appendectomy. *Endoscopy*. 1983; 15: 59–64.
2. Li X, Zhang J, Sang L, Zhang W, Chu Z, Li X, *et al*. Laparoscopic versus conventional appendectomy--a meta-analysis of randomized controlled trials. *BMC Gastroenterol*. 2010; 10: 129.
3. Yuksek YN, Akat AZ, Gozalan U, Daglar G, Pala Y, Canturk M, *et al*. Laparoscopic cholecystectomy under spinal anesthesia. *Am J Surg*. 2008; 195: 533–6.
4. Manoranjan Kar, Jugal K. Kar, Bibhas Debnath. Experience of Laparoscopic Cholecystectomy Under Spinal Anesthesia with Low-pressure Pneumoperitoneum - Prospective Study of 300 Cases. *Saudi J Gastroenterol*. 2011 May-Jun; 17(3): 203–207.
5. Sinha R, Gurwara AK, Gupta SC (2009) Laparoscopic Cholecystectomy Under Spinal Anesthesia: A Study of 3492 Patients. *J Laparoendosc Adv Surg Tech A* 19: 323–327.
6. Bessa SS, El-Sayes IA, Abdel-Baki NA, El-Saiedi MK, Abdel-Maksoud MM (2010) Laparoscopic Cholecystectomy Under Spinal Versus General Anesthesia: A Prospective, Randomized Study. *J Laparoendosc Adv Surg Tech A* 20: 515–520.
7. Barczynski M, Herman RM. A prospective randomized trial on comparison of low pressure (LP) and standard pressure (SP) pneumoperitoneum for laparoscopic cholecystectomy. *Surg Endosc*. 2003; 17: 533–8.
8. Li X, Zhang J, Sang L, Zhang W, Chu Z, Li X, *et al*. Laparoscopic versus conventional appendectomy - a meta-analysis of randomized controlled trials. *BMC Gastroenterol* 2010; 10: 129
9. Özgün H, Kurt MN, Kurt I, Cevikel MH. Comparison of local, spinal, and general anaesthesia for inguinal herniorrhaphy. *Eur J Surg* 2002; 168: 455–459.
10. Sinha R, Gurwara AK, Gupta SC. Laparoscopic total extraperitoneal inguinal hernia repair under spinal anesthesia: a study of 480 patients. *J Laparoendosc Adv Surg Tech A* 2008; 18: 673–677.
11. van Zundert AA, Stultiens G, Jakimowicz JJ, van den Borne BE, van der Ham WG, Wildsmith JA. Segmental spinal anesthesia for cholecystectomy in a patient with severe lungs disease. *Br J Anaesth*. 2006; 96: 464–6.
12. Pursnani KG, Bazza Y, Calleja M, Mughal MM. Laparoscopic cholecystectomy under epidural anesthesia in patients with chronic respiratory disease. *Surg Endosc*. 1998; 12: 1082–4.
13. Manish K. Singh, Alope Kumar, Subrata Nag. Laparoscopic appendicectomy under spinal anaesthesia. *Journal of Dental and Medical Sciences*. Nov.-Dec. 2013; 11(2): PP33-35

Source of Support: None Declared
Conflict of Interest: None Declared