

# Bupivacaine 0.5% and Tramadol Soaked Surgical Placed at Gall Bladder Bed Following Laproscopic Cholecystectomy

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Received: December 2020

Accepted: January 2021

## ABSTRACT

**Background:** Laparoscopic cholecystectomy is defined as any case in which entire cholecystectomy procedure is intended to be performed through laparoscope. Most of these initial studies have used small doses of bupivacaine or of lidocaine. **Methods:** The present study was conducted over a period of two years (October 2015 –September 2017), in the Department of Surgery, Govt. Medical College / Rajindra Hospital Patiala on 60 cases of symptomatic gall bladder disease admitted in Rajindra Hospital Patiala who underwent laparoscopic Cholecystectomy after proper work up and after fulfilling the eligibility criteria. **Results:** The maximum number of patients presented with flatulent dyspepsia followed by incidental gall stones and pain right upper abdomen, however clinical presentations when compared in two groups were non-significant on statistical analysis. **Conclusion:** Laparoscopic Cholecystectomy can sufficiently reduce the analgesic consumption in the post-operative period, however further studies are needed to establish the use of local anaesthetics as intraperitoneal instillation for postoperative pain management in Laparoscopic Cholecystectomy.

**Keywords:** Gall Bladder, Laparoscopic Cholecystectomy.

## INTRODUCTION

Gall bladder diseases are known to the mankind for over 2000 years.<sup>[1]</sup> Symptomatic gallstone disease is one of the most common problem attended by a general surgeon. The most common operation of the biliary tract performed is cholecystectomy.<sup>[2]</sup> The treatment for symptomatic cholelithiasis has remained Langenbuch's open cholecystectomy for over 100 years. However, the application of minimally invasive surgical techniques for the removal of gallbladder is now an accepted and preferred method for its treatment. The avoidance of an abdominal incision and minimal bowel handling leads to decreased postoperative pain, early return to function and overall shorter hospital stay.

The first laparoscopic cholecystectomy was performed by Muhe, a German surgeon in 1985. However the first laparoscopic cholecystectomy recorded in the medical literature was performed in March 1987 by Mouret, in Lyon, France.<sup>[3]</sup>

The first laparoscopic surgery performed in India was by Tehemton E. Udawadia in 1990.<sup>[4]</sup>

In September 1992 A National Institute of Health consensus conference held in Bethesda concluded that laparoscopic cholecystectomy was treatment of choice for cholelithiasis.<sup>[5]</sup>

Laparoscopic cholecystectomy is defined as any case in which entire cholecystectomy procedure is intended to be performed through laparoscope.<sup>[6]</sup> Advantages of laparoscopic cholecystectomy over open cholecystectomy include reduced pain, shorter hospital stay and recovery period, which affects the patient's earlier return to normal life and working activities.<sup>[7,8]</sup> In many centres patients are discharged on the first postoperative day. However, as experience expands further, few centres have recently shown that the operation is safe and feasible even as a day care procedure in properly selected patients.<sup>[9]</sup>

Laparoscopic surgery has displayed advantages over open surgery including lower morbidity and mortality, smaller incisions, reduced length of hospital stay, faster recovery and early return to normal activities and work.<sup>[10-12]</sup>

From patient's perspective, reduced post-operative pain is one of the greatest advantages of laparoscopic surgery compared with open surgery.<sup>[13-15]</sup>

## Aims and Objective

- To decrease the postoperative pain of the patient.
- To minimize the side effects and dosage of analgesics.
- To achieve comfortable hospital, stay of patients.

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## MATERIALS AND METHODS

### Source of data:

The present study “To study the Post-Operative Analgesic effect of Bupivacaine 0.5% and Tramadol soaked Surgical placed at gall bladder bed following laparoscopic Cholecystectomy” was conducted over a period of two years (October 2015 –September 2017), in the department of Surgery, Govt. Medical College / Rajindra Hospital Patiala on 60 cases of symptomatic gall bladder disease admitted in Rajindra Hospital Patiala who underwent laparoscopic Cholecystectomy after proper work up and after fulfilling the eligibility criteria.

### Inclusion Criteria:

- Uncomplicated symptomatic cholelithiasis.
- Medically fit and stable patients.
- Adult Patients of either sex (>18 years).

### Exclusion Criteria:

- Patients having acute cholecystitis.
- Laparoscopic converted to open surgery.
- Patients with contraindication to Intravenous analgesics use.
- Multiple co-morbid diseases, coagulation disorders.
- Suspected/proven malignancy.

## RESULTS

The mean age of patients (years) in Group A was  $44.43 \pm 14.53$  and in Group B was  $40.56 \pm 15.77$  and

was statistically non-significant among the two groups.

**Table 1: Group comparison for age of patients (years)**

Age	Group A		Group B	
	Number	Percentage	Number	Percentage
11-25	2	6.67	6	20.0
26-40	12	40.0	11	36.67
41-55	9	30.0	5	16.67
56-70	5	16.66	7	23.33
71-85	2	6.67	1	3.33
Total	30	100.0	30	100.0
Mean $\pm$ S.D	44.43 $\pm$ 14.53		40.56 $\pm$ 15.77	
Chi Square	3.853			
P value	0.426			

**Table 2: Group comparison for sex distribution of patients**

Sex	Group A		Group B	
	Number	Percentage	Number	Percentage
Male	8	26.67	7	23.33
Female	22	73.33	23	76.67
Total	30	100.0	30	100.0
Chi Square	0.089			
P value	0.766			
Significance	NS			

The number of female patients in both the groups was more as compared to male patients, however statistical comparison for distribution of sex among both the groups was non-significant.

The number of female patients in both the groups was more as compared to male patients, however statistical comparison for distribution of sex among both the groups was non-significant.

**Table 3: Group comparison for clinical features of patients**

Clinical Features	Group A		Group B	
	Number	Percentage	Number	Percentage
Flatulent dyspepsia	11	36.67	12	40.0
Incidental Gall Stones	7	23.33	6	20.0
Pain rt Upper abdomen	7	23.33	7	23.33
Pain Upper abdomen	5	16.67	5	16.67
Total	30	100.0	30	100.0
Chi Square	0.120			
P value	0.989			
Significance	NS			

The maximum number of patients presented with flatulent dyspepsia followed by incidental gall stones and pain right upper abdomen, however clinical presentations when compared in two groups were non-significant on statistical analysis.

## DISCUSSION

Studied the postoperative analgesic effect of bupivacaine 0.5% and tramadol soaked surgical placed at gall bladder bed following Lapar. In this study weoscopic Cholecystectomy. Total number of 60 patients were studied, who were randomized into 2 groups of 30 patients each on the basis of computer generated table of randomization. The Laparoscopic procedure was completed successfully

in all cases without any intraoperative complications or need of conversion to an open operation. In our study the two groups were observed in the postoperative wards for the vital parameters, VAS score and for any adverse effects like nausea and vomiting. The dose and duration of analgesics used postoperatively was also noted.

Postoperative pain is multifactorial in origin, and therefore, multimodal therapy may be needed to optimize pain relief. The accurate assessment of pain is difficult because of its individual threshold, subjectivity and difficulty in measurement. Improved postoperative pain management by using local anaesthetics along with opioids intraperitoneally during laparoscopic surgeries may facilitate a high success rate of day care

Laparoscopic Cholecystectomy. On the basis of our statistical observations there was no difference found in the age and weight of the patients in the two groups. The demographic data was comparable to the literature.

### CONCLUSION

The total number of female patients was 45 while number of male patients was 15 in both the groups which may be explained by the female preponderance of gall bladder disease. Flatulent dyspepsia was the most common presenting clinical feature in both the groups. There was no statistical significance in the post-operative heart rate, blood pressure and respiratory rate in both the groups at different intervals of time. The mean intensity of post-operative pain assessed by VAS at 4,12 and 24 hrs was more in normal saline group as compared to Bupivacaine and Tramadol group. The amount of post-operative analgesics used was more in normal saline group as compared to the Bupivacaine and Tramadol group. Post-operative nausea and vomiting was statistically non-significant in both the groups. Mean length of stay in hospital was non-significant in both the groups to conclude that Bupivacaine 0.5% and Tramadol soaked surgical placed at gall bladder bed is an effective method of post-operative pain management in Laparoscopic Cholecystectomy. The postoperative analgesic effect was potentiated when both the drugs were used in combination resulting in pain relief upto 24 hours and was evident by the postoperative analgesic requirement which was significantly less. Local analgesics combined with tramadol form a cheap, relatively simple and an adequate means of post-operative analgesia for Laparoscopic Cholecystectomy without the risk of any systemic toxicity. It can sufficiently reduce the analgesic consumption in the post-operative period, however further studies are needed to establish the use of local anaesthetics as intraperitoneal instillation for postoperative pain management in Laparoscopic Cholecystectomy.

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**How to cite this article:** Walia DS, Walia M, Goyal A, Bhatia N. Bupivacaine 0.5% and Tramadol Soaked Surgical Placed at Gall Bladder Bed Following Laproscopic Cholecystectomy. *Ann. Int. Med. Den. Res.* 2021; 7(2):SG16-SG18.

**Source of Support:** Nil, **Conflict of Interest:** None declared