

Efficacy of Bupivacaine Soaked Surgicel in Gall Bladder Bed for Post-Operative Pain Relief in Laparoscopic Cholecystectomy Patients.

Ushma Shah¹, Krunal Dhudhwala²

¹(Department Of Anaesthesiology, Sal Hospital And Medical Institute, Ahmedabad, India)

²(Department Of Anaesthesiology, Sal Hospital And Medical Institute, Ahmedabad, India)

Abstract: Post-operative pain relief is an essential part of responsibility for an anaesthesiologist. In laparoscopic approach, there are decreased scarring, decreased pain, shorter hospitalization and faster functional recovery. Pain intensity peaks during the first post-operative hour and gradually declines. In our study, 0.5% Bupivacaine soaked Surgicel placed in gall bladder bed after laparoscopic cholecystectomy, to provide the post-operative pain relief ASA status I & II patients of either sex aged 20-60yrs were randomly allocated into two groups of 30 each. Group T: (n=30) Bupivacaine 0.5% (2 mg/kg) instilled over the oxidized regenerated cellulose strips (Surgicel) in the gallbladder bed. Group C: (n=30) Normal saline, equal to the volume of the test solution instilled over Surgicel in the gallbladder bed. Post-operatively, pain intensity and pain relief measured by VAS scale, Duration of pain relief, Number of rescue analgesics required in first 24 hours, Effect on shoulder tip pain, Vital signs and Side effects were observed. Bupivacaine 0.5% soaked surgicel placed in gall bladder bed was effective in providing the post-operative pain relief following laparoscopic cholecystectomy. The duration of pain relief in study group was variable with a wide range of 6 to 24 hours, 50% of patients having no pain till 24 hours. It was less in control group, range being 4 to 6 hours. In group T, reduce number of rescue analgesics required in post-operative period. The technique was not associated with any adverse effect.

Keywords: bupivacaine, laproscopic cholecystectomy, surgicel

I. Introduction

Laprosopic removal of gall bladder is now accepted and preferred method for treating this condition. There are decreased scarring, decreased pain, shorter hospitalization and faster functional recovery in laprosopic approach. Many intraoperative techniques for reducing postoperative pain have been described. The aim of this study is to determine the effect of 0.5% bupivacaine soaked oxidized regenerated cellulose surgicel versus normal saline soaked surgicel applied at gall bladder bed on postoperative mean pain score after laprosopic cholecystectomy for symptomatic gallstones.

II. Method

After obtaining the institutional ethical committee clearance and written and informed consent from each patient, patients scheduled for laprosopic cholecystectomy were enrolled in the study after meeting the inclusion criteria. Relevant history was taken and clinical examination was done. Necessary investigations were carried out. 60 adult patients were randomly allocated into two groups of 30 each. Group T: (n=30) Bupivacaine 0.5% (2 mg/kg) instilled over the oxidized regenerated cellulose strips (Surgicel) in the gallbladder bed. Group C: (n=30) Normal saline, equal to the volume of the test solution instilled over Surgicel in the gallbladder bed. The pain score was measured with a Visual analogue scale (VAS) at 4, 6, 8, 12, 18, 24 hrs after the procedure in both groups. All data was recorded on Performa and analyzed. At any given point of observation time, once the reported VAS score 4 or more than 4, this will be considered as the duration of pain relief and then they will be given Inj. Diclofenac Sodium 1.5 mg/kg as the rescue analgesic.

III. Results

The demographic characteristic of the two groups has shown that studied patients were matched as regarding gender, age, weight, ASA status and duration of surgery. In our study, results showed that the VAS scores remained significantly low in group T (Bupivacaine) compared to group C (Saline) patients. Out of 30 patients in group T, only 15 patients required post-operative rescue analgesic who received Inj. Diclofenac sodium and the remaining 15 patients did not require any dose of rescue analgesic as their pain scores were less than 4/10 till 24 hours, so the duration of pain relief in these patients was taken as 24 hours. In the 15 patients who required pain relief, the mean duration for the pain relief was 7.86 ± 0.51 hours, the range being 6 to 8 hours. One patient required rescue analgesic at 6 hours and remaining 14 required at 8 hours. In the control group C,

all the 30 patients required pain relief within first 24 hours post operatively. The mean duration of pain relief was 4.70 ± 0.97 hours the range being 4 to 6 hours. 20 patients required pain relief at 4 hours and 10 patients required at 6 hours post operatively. The number of rescue analgesics required was 0-1 in group T compared to 1-2 in group C; this difference was also statistically significant. These all findings do suggest that Bupivacaine soaked Surgicel kept in gall bladder bed provided significant visceral pain relief, the duration varying from 6 to 24 hours. Only 3 patients in group C reported mild shoulder tip pain post operatively. 4 patients in group C developed complaint of nausea and vomiting.

IV. Conclusion

Bupivacaine 0.5% soaked surgical placed in gall bladder bed was effective in providing the post operative pain relief following laparoscopic cholecystectomy. The duration of pain relief in study group was variable with a wide range of 6 to 24 hours, 50% of patients having no pain till 24 hours. It was less in control group, range being 4 to 6 hours. In study group, reduce number of rescue analgesics required in post operative period. The technique was not associated with any adverse effect. So, we can conclude that the technique of putting 0.5% Bupivacaine soaked Surgicel in gall bladder bed following removal of gall bladder is a good and safe technique and can be used in management of post operative pain of laparoscopic cholecystectomy patients.

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