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Original Research Article

An Observational Study to See the Effect of Instillation of Local Anaesthetic (Bupivacaine) in Gall Bladder Fossa and Trocar Incision Site I/V/O Pain Following Laproscopic Cholecystectomy

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Conflict of interest: Nil

Abstract:

Introduction: Even though there are multiple benefits of laparoscopic cholecystectomy over the open cholecystectomy but still the postoperative pain has remained as a major issue. It is helpful to decrease the postoperative pain through the infiltration of local anesthetics like Bupivacaine inside operative wounds.

The upper limit of bupivacaine is 2.5 mg per kilogram of the patient's body weight.

Aims and Objective: An observational study to see the effect of instillation of local anaesthetic (Bupivacaine) in gall bladder fossa and trocar incision site i/v/o pain following laproscopic cholecystectomy. (1) To determine the analgesic efficacy of bupivacaine in alleviating post operative pain. (2) To evaluate pain intensity by Visual analogue scale (VAS). (3) To reduce analgesic use post operative. (4) To reduce hospital stay post operative.

Materials and Methods: This study was conducted to determine whether local infiltration of bupivacaine at trocar sites and gall bladder fossa has any effect in postoperative pain relief. This study was conducted on patients undergoing laparoscopic cholecystectomy. In these patients bupivacaine was instilled subcutaneously at trocar sites and 20ml of 0. 5% bupivacaine was instilled in gallbladder fossa after removal of gall bladder.

Results: The efficacy of bupivacaine was observed at time duration gaps of 2 hours, 6 hours, 12 hours and 24 hours respectively where, Maximum of the patients did not experience the pain while the intensity was being measured by using the visual analogue scale.

Conclusion: It is helpful to decrease the postoperative pain through the infiltration of local anesthetics like 0.5% Bupivacaine in operative wounds (Gall Bladder Fossa And Trocar Incision Site).

Keywords: Visual analogue scale, Bupivacaine, postoperative pain, laparoscopic cholecystectomy

Introduction

Even though there are multiple benefits of laparoscopic cholecystectomy over the open cholecystectomy but still the postoperative pain has remained as a major issue. [1]

It is helpful to decrease the postoperative pain through the infiltration of local anesthetics inside the operative wounds. [2]

One of such local anaesthetics that carries a beneficial profile, that is free from side

effects and acts for a longer period of time is Bupivacaine. [3-5]

Local anesthetics stay in connection with the plasma proteins in varying degrees. Usually, when the concentration of plasma of the drug is dependent on the way it is bound to the plasma proteins. [6]

The upper limit of bupivacaine is 2.5 mg per kilogram of the patient's body weight. So, to carry out the safe application a patient who is lean and has a body mass of 40 kg can intake 100 mg of the drug safely and if this is used appropriately then better results are usually expected. [7]

Materials and Methods:

Study Design: (Observational study)

The Prospective study was conducted during the period of 18 months on patients presenting to Teerthankar Mahaveer Medical College, Moradabad to Department of General Surgery. [8-10]

All patients of either sex between age group 18 to 60 undergoing elective laparoscopic cholecystectomy and fulfilling the inclusion and exclusion criteria of the proposed study selected.

Prior written informed consent obtained from all study subjects undergoing laparoscopic cholecystectomy. [11-15]

All patients had sensitivity check for bupivacine preoperatively.

Patients received 20 ml of 0.5% bupivacaine intraperitoneally at gall bladder bed and incision port site at the end of surgery through epigastric port.

Outcomes of the study evaluated.

Study Group: Patients will receive 20 ml of 0.5% bupivacaine intraperitoneally at gall bladder bed and incision port site at the end of surgery through epigastric port.

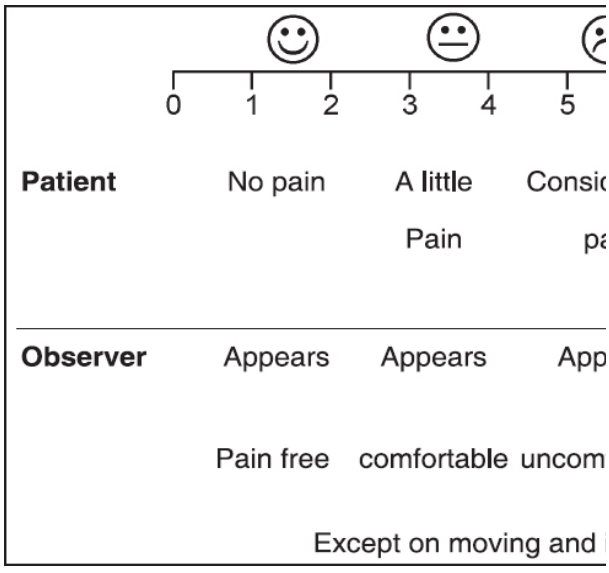
All patients will have senstivity check for bupivacine preoperatively.

- Outcomes of the study will be evaluated under the following headings:

1. Average time taken for gall bladder removal
2. Duration of post operative pain
3. Constitutional Symptoms:

i. Tachycardia
ii. Persistent Vomiting
iii. Abdominal distention

4. Post-operative Visual Analogue Scale:
5. Mean duration of hospital stay
6. Duration of analgesic used.



Visual Analogue Scale

Inclusion and Exclusion criteria

Inclusion Criteria:

1. Age – 18 to 75 yrs.
2. Both Male and Female sexes.
3. All patients requiring for elective and incidental laproscopic cholecystectomy.

Exclusion Criteria:

1. h/o anaphylaxis to local anesthetics and/or opoids.
2. h/o drug abuse.
3. Morbidly obese patients.
4. k/c/o heart disease pt.
5. Psychiatric illness patient
6. ASA classification 3,4,5
7. Uncooperative and unwilling pt

Ethical approval

Approved by ethics committee Teerthankar Mahaveer Medical College, Moradabad (Department of General Surgery)

Results:

Fig.1 shows the frequency distribution of Gender where maximum percentages of subjects were found as Female

Fig.2 shows the frequency distribution of Previous H/o acute cholecystitis, where maximum percentages of subjects were found in No

Fig.3 shows the frequency of USG Finding, where maximum percentages of subjects were found in m

Fig. 4 shows frequency distribution of Adhesions, where maximum the subjects were found in No

Fig.9 shows the distribution of 6hr.Predominent Site Of Pain (RHC/Trocar), where maximum percentages of subjects were found in No

Fig.10 shows the distribution of 12hr.Predominent Site Of Pain (RHC/Trocar), where maximum percentages of subjects were found in No

Fig.11 shows the distribution of 24hr.Predominent Site Of Pain (RHC/Trocar), where maximum percentages of subjects were found in rhc

Fig.12 shows the distribution of 0-2hr.Analgesic, where maximum percentages of subjects were found in No

Discussion:

- The result started with the frequency distribution of the cases as per the gender which showed that the number of females outnumbers the number of males and the values were 71.7% and 28.3 % respectively.
- While observing if the patients were having any previous history of acute cholecystitis the researchers noticed that a maximum of the patients did not have any previous history which accounted for 77.7 % and only 22.5 % of the patients had a previous history of acute cholecystitis.

- While representing the categories of adhesions it was noticed that the maximum of the subjects were found in the category of NO which was 73.3 %
- The Representation of the frequency distribution regarding the observation of the complications post one week of observation shows that 96.7 % of the cases did not show complications whereas only 3.3 % of them have the complications.
- According to the age category, the distributions of the subjects show that the maximum of the cases belong from the age group 31 to 40 years and it accounted for 35.8 % and the minimum percentage of the patients belong from the age group of more than 50 years that was 15%.
- The Representation of the 2hr.Predominant Site Of Pain (RHC/Trocar) that was categorized under four types show that most of the study subjects were under the category of no instead of RHC or Trocar and accounted for 75%.
- For the 6hr.Predominant Site Of Pain and 12hr.Predominent Site Of Pain maximum of the study subjects were again under no having the value of 60.8% and 28.3 % respectively.
- Lastly, the 24hr.Predominant Site Of Pain was found in the RHC and it was having a value of 35.8 %.

Conclusion

- After laparoscopic cholecystectomy the visceral pain becomes prominent and that is why, for evaluating the effect of the total pain score over varied times along with the intensity of different types of pain, this observational study was carried out.
- The efficacy of bupivacaine was observed at time duration gaps of 2 hours, 6 hours, 12 hours and 24 hours respectively to show that it was really effective.
- Maximum of the patients did not experience the pain while the intensity was being measured by using the visual analogue scale .
- The duration of the postoperative hospital stay also got reduced to a great extent.
- Finally, it can be concluded that indeed the installation of 0.5% Bupivacaine in the gallbladder effectively controls the intensity of pain.

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