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To compare the efficacy of single dose versus conventional (multiple doses) antibiotic use in laparoscopic cholecystectomy in terms of pain score

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Abstract

Background: To compare the efficacy of single dose versus conventional (multiple doses) antibiotic use in laparoscopic cholecystectomy in terms of post-operative pain

Methods: This study was carried out in the department of General Surgery Indira Gandhi Medical College Shimla (H.P.) on patients admitted with radiologically proven cholelithiasis.

Results: Mean of pain score in SD (Single dose) group was 3.92 and in C (Conventional) group was 4.4 which is comparable to each other.

Conclusion: The VAS wise difference in both groups was found insignificants

Keywords: Single dose, Conventional, Gallstone, Pain score

Introduction

Laparoscopic cholecystectomy has spread rapidly worldwide mainly because postoperative pain is less, recovery is more rapid, cosmetic results are better, and hospital stays are shorter. There is low morbidity and mortality, low rate of post-operative infection and the return to work is quicker than with the open procedure. Moreover, the traditional absolute contraindications for laparoscopic cholecystectomy in certain specialized situations have largely been resolved and rendered relative, including the presence of acute cholecystitis, a history of previous abdominal surgery, morbid obesity, pregnancy, cirrhosis and even situs inversus totalis. Most cases of open cholecystectomy now only occur as conversions from a laparoscopic approach. Therefore, inclusion of the term "laparoscopic" is essentially a pleonasm, and perhaps simply "cholecystectomy" should be used when referring to the laparoscopic cholecystectomy procedure, with the full term "open cholecystectomy" used for classic open cholecystectomy.[1-3]

Material and Method

Study Setting: This study was carried out in the department of General Surgery Indira Gandhi Medical

College Shimla (H.P.) on patients admitted with radiologically proven cholelithiasis.

Study Design

This was prospective study in which comparison of outcome in the form of wound sepsis between two groups was done. 1st was SD group (Received Single dose of pre-operative antibiotic) and 2nd was C group (Received Single dose Pre-operative antibiotic followed by post-operative antibiotic for 5 days). Laparoscopic cholecystectomy was done and comparison of outcome in the form of wound sepsis was done between two groups.

Sample Size

A total of 100 patients randomly selected with ultrasound proven symptomatic cholelithiasis and admitted for elective laparoscopic cholecystectomy were included in the study.

Study Population

Inclusion criteria

All patients with radiologically proven cholelithiasis.

Exclusion criteria

- Patients with acute cholecystitis.
- Patients with diabetes mellitus.
- Patient with immunosuppression.
- Patients with intra-operative bile spillage.
- Patients with intra-operative stone spillage.
- Patients with empyema gall bladder.
- Patients not willing to give consent.
- Patient unfit for general anaesthesia.
- Pregnant woman with cholelithiasis.
- Patients with underlying bleeding diathesis
- Patients who had intra-operative complications or were converted to open cholecystectomy.

Method

Patients presenting to General surgery OPD at I.G.M.C. Shimla with pain abdomen subsequently diagnosed radiologically with cholelithiasis were included in this study after duly informing about the nature of study and taking informed consent.

Subsequently patients were divided into two groups

Group-1 [SD (Single Dose)]: Patients who were given single dose of antibiotic (Inj. Cefuroxime 1.5gm) 30 to 60 min before giving skin incision.

Group-2 [C (Conventional)]: Patients who were given single dose of antibiotic (Inj. Cefuroxime 1.5gm) 30 to 60 min before giving skin incision followed by same antibiotic for five post-operative days.

Laparoscopic Cholecystectomy was performed.

Statistical Analysis

All data were expressed as mean +/- standard deviation. Data was analysed for comparison of outcome in the form wound sepsis occurring in two groups and P value was calculated. P value less than 0.05 was considered to be statistically significant.

Results

Total number of patients in our study was 100, 50 in each SD and C group. Out of 100 patients, 13 patients were male and 87 were female.

Grading of post-operative pain was done by using visual analog scale (VAS) at 24 hours after surgery.

Following results were obtained.

Table 1

SD Group (Total 50 patients)			
Grade (VAS)	2	4	6
No. of Patients	11	30	09
Percentage	22%	60%	18%
Mean		3.92	
C Group (Total 50 patients)			
Grade (VAS)	2	4	6
No. of Patients	05	30	15
Percentage	10%	60%	30%
Mean		4.4	

Mean of pain score in SD group was 3.92 and in C group was 4.4 which is comparable to each other.

Discussion

There have been no studies in Indira Gandhi Medical College Shimla comparing the efficacy of single dose of antibiotic and conventional use (multiple doses) of antibiotics in patients undergoing laparoscopic cholecystectomy.

Grading of post-operative pain was done by using visual analog scale (VAS) at 24 hours. Average of pain score in SD group was 3.92 and in C group 4.4. In a study performed by **Guo W et al.** titled "Randomized Trial of Immediate Postoperative Pain Following Single-incision Versus Traditional Laparoscopic Cholecystectomy" performed in 2015 it was found that pain score on VAS was 4 in patients undergoing traditional laparoscopic cholecystectomy. Results of our study are comparable to this study.[4]

Conclusion

The VAS wise difference in both groups was found insignificants.

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