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COMPARISON OF DURATION OF SURGERY AFTER SINGLE DOSE ANTIBIOTIC PROPHYLAXIS AT DIFFERENT TIME INTERVAL IN PATIENTS UNDERGOING ELECTIVE LAPAROSCOPIC CHOLECYSTECTOMY

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Abstract

Background: In this study we compare the duration of surgery after single dose antibiotic prophylaxis at different time interval in patients undergoing elective laparoscopic cholecystectomy

Methods: The present study was conducted at Department of Surgery, Dr RPGMC Kangra at Tanda. The 50 patients admitted for elective laparoscopic cholecystectomy, aging less than 75 years of both the genders were included

Results: In the present study, mean duration of surgery of the patients in group A and group B was 59.80±15.91 minutes and 63.12±12.50 minutes

Conclusion: Our study we concluded that mean duration of surgery difference was not statistically significant between group A and group B.

Keywords: Duration of surgery, Cholelithiasis, Cholecystectomy.

Introduction

Laparoscopic cholecystectomy (LC) is the gold standard treatment of symptomatic cholelithiasis. Its advantage over open cholecystectomy has been well established (level 1 evidence).[1] Smaller incisions (ports), cosmesis, early recovery, patient‟s satisfaction and cost effectiveness are the numerous advantages of LC. Unlike any other surgery, surgical site infection (SSI) is an integral part of LC. This is termed as port site infection (PSI) in LC.[2] Unlike SSIs in open surgery, PSI after laparoscopic surgery obviates all its advantages and is frustrating to the patient and night mare for the surgeon. The unsightly wound and nagging indolent infection continues for days with minimal response to common antibiotics. This decreases the quality of life of the patient with added cost. Apart from the other well known causes, the primary cause of PSI in our country includes insufficient and ineffective sterilization of reusable trocars.[2,3] This leads to colonization of the wound with native skin commensals which rarely produce infection in an otherwise healthy patient.

At times exogenous agents like contaminated water used for cleaning instrument are responsible for PSIs.[2,3] Being unusual organisms they respond poorly to usual antibiotics. Often the culture report is negative. As such multi dose postoperative antibiotics have minimal role to provide relief from PSI. Though these facts are well established, surgeons still continue to use multiple doses of post operative antibiotics in CDC classified class 1 and 2 LC. On the other hand it is also true that despite improved sterilization techniques and other laparoscopic surgical technical reforms PSI still exists. Social taboo, lack of confidence in part of the surgeon and other industry driven facts, which are beyond the scope of this discussion, are reasons behind such inappropriate and irrational use of postoperative multiple dose antibiotics. It has been proved beyond doubt that a single preoperative dose of antibiotic is sufficient to prevent SSI in LC.[1-4]

Material and Methods

Study Area

Department of Surgery, Dr RPGMC Kangra at Tanda

Sample size- 50

Preoperatively same antibiotic was given to all patients.

Inclusion Criteria

The patients admitted for elective laparoscopic cholecystectomy, aging less than 75 years of both the genders were included.

Exclusion Criteria

Patients were excluded on the following basis

- Day care surgery
- Contradictions for study drugs, in particular penicillin type I allergy

- Pre-existing antibiotics therapy within 14 days of surgery
- Indication for SAP other than cefuroxime
- Patients with co-morbid conditions like diabetes mellitus, jaundice, uraemia, neoplasia, immunosuppressed patients, pregnant or lactating women, patients on antibiotic therapy, cephalosporin allergy, conversion to open cholecystectomy, and patients with infective focus in the body

Randomization

The study comprised of 50 patients admitted for elective laparoscopic cholecystectomy. The patients were randomized according to computer-based randomization.

Group A: Twenty-five patients undergoing elective laparoscopic cholecystectomy were given a single dose of injection cefuroxime 1.5 gm IV outside the operation theatre in the wards minimum 30 mins before surgery.

Group B: Twenty-five patients undergoing elective laparoscopic cholecystectomy were given a single dose of injection cefuroxime 1.5 gm IV after the test dose just before the induction of anaesthesia within 30 mins of surgery.

Method

The surgical site was prepared inside the operation theatre. Three coats of 5% betadine paint were applied to the abdominal skin. The standard aseptic precautions were followed at each step. Post-operatively, the wounds were examined on second day, at time of discharge, and at the day of sutures removal (8^{th} day post-operatively), and on 30^{th} day (hospital visit or telephonic interview).

Antibiotic prophylaxis was given:

- On OT table
- In pre-operative room/ward

Data Collection

After admission, detailed history, examination and basic investigations were performed for all subjects. All the participants were asked to give their written informed consent after they had been made aware of the purpose of the study.

Statistical Analysis

Statistical analysis was performed using SPSS v21. Data were presented as frequency, percentages, mean, and standard deviation. Student t-test was used to compare quantitative variables between two groups. Non-normally distributed data were compared using Mann Whitney U test. Categorical variables between 2 groups were compared using Chi square test with or without Yate's correction. P value <0.05 was considered statistically significant.

Results

In the present study, mean age of the patients in group A and group B was 43.52±12.37 years and 44.96±16.06 years. Our study also observed that mean age was not statistically significant different between group A and group B (P=0.724).

In the present study, mean duration of surgery of the patients in group A and group B was 59.80±15.91 minutes and 63.12±12.50 minutes. Our study also observed that mean duration of surgery was not statistically significant different between group A and groupB (P=0.416).

Table 1: Comparison of duration of surgery

	Group A (n=25)	**Group B (n=25)**
Duration of surgery (Min)	59.80±15.91	63.12±12.50
P value	0.416	

Data were expressed as mean±SD.

Discussion

Comparison of duration of surgery in between both groups was found statistically Insignificants in our study.

Antibiotic prophylaxis is recognized as one of the most important preventive measures to reduce the incidence of SSI. It is indicated in clean-contaminated and contaminated surgeries and in some special cases of clean surgery (e.g. implants, immunosuppression and risky operative location such as neurosurgery and cardiac surgery).[5]

The patients undergoing laparoscopic cholecystectomy have several factors that significantly contribute to postoperative length of stay. The factors that increase postoperative length of stay include non-elective status, ASA classification, biliary pancreatitis, white blood cell count, and fluids administered. The factor that decreased postoperative length of stay was BMI.

Conclusion

Our study we concluded that mean duration of surgery difference was not statistically significant between group A and group B.

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