ISSN- O: 2458 - 868X, ISSN–P: 2458 – 8687
National Library of Medicine - ID: 101731606

International Journal of Medical Science and Innovative Research (IJMSIR)
IJMSIR : A Medical Publication Hub
Available Online at: www.ijmsir.com
Volume – 6, Issue – 3, June – 2021 , Page No. : 19 - 22

To compare the hospital stay in single dose intravenous antibiotic prophylaxis over no antibiotic prophylaxis in the prevention of wound infection following Lichtenstein tension free inguinal hernioplasty

[1]Dr. Prteet Negi, MS, Department of General Surgery, Dr. Rajender Prasad Medical College Kangra, Tanda H.P India
[2]Dr. Priyanka Thakur , MD, Department of Anaesthesia, Indira Gandhi Medical College, Shimla HP India
[3]Dr. Ramesh Bharti, MS, Department of General Surgery, Dr. Rajender Prasad Medical College Kangra, Tanda H.P India
[4]Dr. Amar Verma, MS, Department of General Surgery, Dr. Rajender Prasad Medical College Kangra, Tanda H.P India
[5]Dr. Rajesh Sharma, MS, Department of General Surgery, Dr. Rajender Prasad Medical College Kangra, Tanda H.P India
[6]Dr. Abhinav Sharma, MS, Department of General Surgery, Dr. Rajender Prasad Medical College Kangra, Tanda H.P India

Corresponding Author: Dr. Priyanka Thakur, MD, Department of Anaesthesia, Indira Gandhi Medical College, Shimla HP India

Citation this Article: Dr. Prteet Negi, Dr. Priyanka Thakur, Dr. Ramesh Bharti, Dr. Amar Verma, Dr. Rajesh Sharma, Dr. Abhinav Sharma,“ To compare the hospital stay in single dose intravenous antibiotic prophylaxis over no antibiotic prophylaxis in the prevention of wound infection following Lichtenstein tension free inguinal hernioplasty”, IJMSIR- June - 2021, Vol – 6, Issue - 3, P. No. 19 – 22.

Type of Publication: Original Research Article

Conflicts of Interest: Nil

Abstract

Background: We conducted a study to compare the hospital stay in single dose intravenous antibiotic prophylaxis over no antibiotic prophylaxis in the prevention of wound infection following Lichtenstein tension free inguinal hernioplasty

Methods: This prospective study was conducted in the Department of Surgery, Dr. Rajendra Prasad Government Medical College Kangra at Tanda from May 2018 to December 2019after being approved by institutional protocol review committe and ethics committee.50 patients were included in the study. These patients were randomised into two groups i.e. Group A (Antibiotic Group) and Group B (Non-antibiotic Group).

Results: The mean duration of hospital stay was 3.56±1.26 days in Antibiotic group (group-A) and 3.12±0.78 days in Non-antibiotic group (group-B). The mean duration of hospital stay was more in group-A as compared to group-B.

Conclusion: In our study, we concluded that statistically insignificant difference was found in the hospital stay in Antibiotic and Non-antibiotic Group

Keywords: Hospital stay, Antibiotic, Pre-operative

Introduction

Lichtenstein hernia repair is the most frequently performed. The Lichtenstein technique is a tension free repair of weakened inguinal floor using a polypropylene mesh.8 Reported rates of wound infection following inguinal hernia surgery vary from 0%-9%.[1] The low rate of wound infection and the

straightforward treatment if they occur at all are the main arguments against routine antibiotic coverage during inguinal hernia surgery.[2]

A Cochrane meta-analysis[3] in 2003 concluded that 'antibiotic prophylaxis for elective inguinal hernia repair cannot be firmly recommended or discarded and further studies are needed, particularly on the use of mesh repair'. Since inguinal hernia repair represents one of the most frequently performed surgical procedure,[4] any improvement in their treatment could have a large medical and economic impact, especially a reduction in number of wound infections. Conversely, discarding the use of antibiotic prophylaxis in inguinal hernia repair could reduce the risks of toxic and allergic side effects, the possible development of bacterial resistance[5] or super-infection and reduce costs

. In view of above consideration, we conducted this study to assess the role of single dose intravenous antibiotic prophylaxis over no antibiotic prophylaxis in hospital stay following Lichtenstein tension free inguinal hernioplasty in patients with no other co-morbid conditions.

Material And method

This prospective study was conducted in the Department of Surgery, Dr. Rajendra Prasad Government Medical College Kangra at Tanda from May 2018 to December 2019after being approved by institutional protocol review committe and ethics committee.50 patients were included in the study.These patients were randomised into two groups i.e. Group A (Antibiotic Group) and Group B (Non-antibiotic Group).

Inclusion criteria

- All Patients of both gender above the age of 18yearswith unilateral or bilateral inguinal hernia.

Exclusion criteria

- Patients with recurrent or strangulated inguinal hernia.
- Femoral hernia and giant scrotal hernia with massive defect.
- Below 18 years of age.
- Allergic to injection Amoxicillin+ Clavulanic acid.
- With systemic diseases like diabetes mellitus.
- Liver or renal impairment.
- Patients on steroid or antibiotic therapy within a week before surgery.
- Pregnant or lactating women.
- Immunocompromised patients will be excluded from the study.

Characteristics of the study

- **Participants**: 50 patients who underwent inguinal mesh hernioplasty.
- **Group**: Group A (Antibiotic Group) and Group B (Non-antibiotic Group)
- **Type of study**: Randomized control clinical study.
- **Randomization**: By alternate method
- **Intervention**: Surgery-Lichtenstein tension freeinguinal mesh hernioplasty
- **Medication**: Group A (Antibiotic Group): Injection Amoxicillin+ Clavulanic acid 1.2gram single dose was given within one hour before skin incision in antibiotic group. The administration of the drug was done intravenously in the pre- operating room. No more antibiotic was given to these patients in the post-operative period.

- Group B (Non -antibiotic group):10millilitre normal saline was given in non-antibiotic group.

Statistical analysis

Data were expressed as frequency, percentage, mean and standard deviation. Diagnostic values were calculated using MedCalc for Windows, version 19.1.17(Med Calc Software, Ostend, Belgium).

Results

The socio-demographic variable in both groups were comparable

Table 1: Mean duration of hospital stay

Groups	Hospital stay in mean duration(Days)
Antibiotic group (group-A)	3.56±1.26
Non-antibiotic group (group-B)	3.12±0.78

The mean duration of hospital stay was 3.56±1.26 days in Antibiotic group (group-A) and 3.12±0.78 days in Non-antibiotic group (group-B). The mean duration of hospital stay was more in group-A as compared to group-B. However, the mean duration of hospital stay between Antibiotic group (group-A) & Non-antibiotic group (group-B) was statistically not significant (P= 0.145).

Discussion

The present study was aimed to evaluate the role of single dose antibiotic prophylaxis in elective open inguinal mesh hernioplasty to prevent surgical site infection in the patients admitted in department of surgery, Dr. Rajendra Prasad Government Medical College Kangra at Tanda, during 1year period from May 2018 to December 2019. Total50 patients were enrolled into the study after fulfilling the inclusion and exclusion criteria.

A Cochrane meta-analysis in 2003 concluded that 'antibiotic prophylaxis for elective inguinal hernia repair cannot be firmly recommended or discarded and further studies are needed, particularly in patients with mesh repair'[6]. The efficacy of antibiotic prophylaxis in hernioplasty remains controversialand some surgeons still feel that antibiotic prophylaxis is not necessary, even for procedures with a mesh [7].

Since inguinal hernia repair represents one of the most frequently performed surgical procedure, [8] any improvement in their treatment could have a large medical and economic impact, especially a reduction in number of wound infections. Conversely, discarding the use of antibiotic prophylaxis in inguinal hernia repair could reduce the risks of toxic and allergic side effects of drugs, the possible development of bacterial resistance[9] or super-infection and reduce costs.

Conclusion

In our study, we concluded that statistically insignificant difference was found in the hospital stay in Antibiotic and Non-antibiotic Group.

References

1. Stephenson BM. Complications of open groin hernia repair. Surg Clin North Am 2003;83:1255–78.
2. Glassow F. Is postoperative wound infection following simple inguinal herniorraphy a predisposing cause for recurrent hernia? Can J Surg 1964;91:870–1.
3. Sanchez-Manuel FJ, Seco-Gil JL. Antibiotic prophylaxis for hernia repair. Cochrane Database Syst Rev 2003; 2:CD003769.
4. Deysine M. Pathophysiology, prevention, and management of prosthetic infections in hernia surgery. Surg Clin North Am 1998;78:1105–15

5. Law DJ, Mishriki SF, Jeffery PJ. The importance of surveillance after discharge from hospital in the diagnosis of postoperative wound infection. Ann R Coll Surg Engl 1990;72:207-9.
6. Bendavid R. Complications of groin hernia surgery. Surg Clin North Am 1998;78:1089-1103.Aiken AM, Haddow JB, Symons NR, etal. Use of antibiotic prophylaxis in elective inguinal hernia repair in adults in London and south-east England: a cross-sectional survey. Hernia2013; 17: 657–64.
7. Rutkow IM. Demographic and socioeconomic aspects of hernia repair in the United States. Surg Clin NorthAm 2003;83:1045–51.
8. Waldvogel FA, Vaudaux PE, Pittet D, et al. Perioperative antibiotic prophylaxis of wound and foreign body infections: microbial factors affecting efficacy. Rev Infect Dis 1991;13:782–9.