

To find the incidence of type of post operative wound infection in uncomplicated acute appendicitis cases using prophylactic post operative antibiotics

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Citation this Article: Dr. SitaRam Yadav, Dr. Pankaj Meena, “To find the incidence of type of post operative wound infection in uncomplicated acute appendicitis cases using prophylactic post operative antibiotics”, IJMSIR- February - 2021, Vol – 6, Issue - 1, P. No. 07 – 10.

Type of Publication: Original Research Article

Conflicts of Interest: Nil

Abstract

Background: To study found the incidence of type of post operative wound infection in uncomplicated acute appendicitis cases using prophylactic post operative antibiotics

Methods: This randomized control prospective study conducted on cases of uncomplicated acute appendicitis undergoing emergency open appendectomy were included in this study.

Results: All the 9 patients who had wound infection developed superficial surgical site infection. None of the patients developed deep surgical site or intra abdominal infections in either of the two groups.

Conclusion: Frequency of post operative wound infection is generally very low in uncomplicated appendicitis. The prolonged use of antibiotics post operatively is unnecessary, can increase antibiotic resistance, can produce side effects and increase cost of treatment.

Keywords: Wound infection, Antibiotic, Acute appendicitis.

Introduction

Appendicitis is the most common intra-abdominal condition requiring emergency surgery, with a lifetime risk of 6%¹. Appendectomy continues to be one of the commonest procedures in general surgery, accounts for approximately 1% of all surgical operation²⁻³

The efficacy of antibiotic prophylaxis in patients undergoing appendectomy has been examined in several randomized and observational studies showing that appropriate use of antibiotics reduces the risk of SSI following appendectomy by 40-60%⁴ These antibiotics are continued in postoperative period with different courses and combinations according to each case.^{4,5}

This seems logical and necessary for perforated cases due to peritoneal and wound contamination. There is 3 times increase in wound infection, 15 fold increase in intra-abdominal abscess and mortality may be 50 times greater in complicated appendicitis⁶

Material and Methods

Cases of uncomplicated acute appendicitis undergoing emergency open appendectomy were included in this study.

Inclusion Criteria: All patients aged 10-60 years undergoing emergency open appendectomy for acute uncomplicated appendicitis, in the Department of General Surgery, IGMCM Shimla were included in this study.

Exclusion Criteria: The following patients were excluded from the study:

1. Complicated appendicitis cases (appendicular mass, gangrene, perforation and abscess).
2. Patients with pregnancy

3. Patients with other co morbidities like immune compromised state, diabetes, carcinoma and patients on steroids.
4. Co morbid conditions requiring antibiotics.
5. Patients who had received antibiotics within 72 hours of admission
6. History of symptoms more than 3 days
7. Cases lost to follow up
8. Allergic to the respective antibiotics
9. Refused to give consent

A detailed history was taken and thorough clinical examination was done in each case. Appropriate investigations were done as per Performa. Written informed consent was taken in each case.

Results

Table 1: Comparison of type of wound infection between two groups

Variable	Options	Group A		Group B	
		%	(number)	%	(number)
Type of wound infection	None	90%	45	92%	46
	Superficial Incisional	10%	5	12%	4
	Deep Incisional	0%	0	0%	0
	Organ/space Infection	0%	0	0%	0

9 patients (5 in Group A and 4 in Group B) developed wound infection. All the 9 patients developed superficial site infection. None of the patients developed deep surgical site or intra abdominal

infections in either of the two groups. There was no statistically significant difference between the two groups (p value- >0.05).

Table 2: Comparison of post operative hospital stay between two groups)

variable	Options	Group A		Group B	
		%	(number)	%	(number)
Hospital Stay	2-3 Days	92%	46	92%	46
	4-5 Days	6%	3	6%	3
	6-7 Days	2%	1	2%	1
	8-9 Days	0%	0	0%	0

46(92%) cases of group A were discharged on 2-3rd postoperative day and 46(92%) cases of group B were discharged on 2-3rd postoperative day. 3(6.00%) cases

of group A were discharged on 4-5th postoperative day and 3(6%) cases of group B were discharged on 4-5th postoperative day. On 6-7th post-operative day 1 case of

group A and 1 case of group B was discharged. Mean hospital stay in group A was (2.6 ±0.9) days and mean hospital stay in group B was (2.5±0.9) days.

Patients who developed wound infections had a prolonged hospital stay in which mean hospital stay in group A was 5 days and mean hospital stay in group B was 5.2 days. There was statistically no significant difference between discharges of patients of both groups. (p value>0.05)

Discussion

9 patients (5 in Group A and 4 in Group B) developed wound infection. All the 9 patients developed superficial surgical site infection. None of the patients developed deep surgical site or intra abdominal infections in either of the two groups. There was no statistically significant difference between the two groups (p value >0.05).

The overall incidence of post appendectomy wound infection in various studies was between 5 to 10% and mostly the infection was superficial surgical site infection. It is due to better operative techniques, better asepsis and better antibiotics.

Patients who developed wound infections had a prolonged hospital stay in which mean hospital stay in group A was 5 days and mean hospital stay in group B was 5.2 days. There was statistically no significant difference between discharges of patients of both groups. (p value>0.05)

Mean hospital stay in group A was 2.6 days and mean hospital stay in group B was 2.5 days. It was statistically insignificant (p-value = >0.05). In both groups mean hospital stay was 5.0 days in those patients who had wound infection.

Overall mean hospital visits in group A were 2.08 and mean hospital visits in group B were 2.06

Number of hospital visits were more in patients with wound infections with a mean of 3.50 visits in both the groups. This was because patients were called for wound assessment and aseptic sterile dressings.

Similar observation was made by Mohammed Salman et al⁷. A total of 390 patients were included in the study, out of which 192(49.2%) were in Group A and 198(50.7%) were in Group B. All patients received cefuroxime and metronidazole. Group A received a single dose of cefuroxime sodium and metronidazole half-an-hour before induction, while Group B received one more dose of the same antibiotics postoperatively. Number of surgical site infections was 15(7.8%) in Group A and 18(9.1%) in Group B which was statistically insignificant (p-value - 0.65).

Conclusion

Frequency of post operative wound infection is generally very low in uncomplicated appendicitis. The prolonged use of antibiotics post operatively is unnecessary, can increase antibiotic resistance, can produce side effects and increase cost of treatment.

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