COMPARATIVE STUDY OF SINGLE DOSE AND FIVE DAYS DOSE OF GENTAMJCIN AS PROPHYLAXIS IN APPENDICECTOMY

Pages with reference to book, From 135 To 136

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ABSTRACT

One hundred patients who had appendicectomy for uncomplicated acute appendicitis over 1 year were randomly allocated to two groups of 50 patients each. Patients in group 1 had a single prophylactic injection of gentamicin while those in group 2 had a five days course with the first dose given just before the operation. There was no wound infection in any of the patients in either groups. There was also no statistically significant difference in the incidence of other postoperative complications. These findings suggest that a single prophylactic dose of gentamicin was as effective as a five days course in preventing postoperatively complications, like wound infection (JPMA42: 135,1992),

INTRODUCTION

Appendicectomy is a common operation both in the developed and developing countries[1-5]. These days postappendicectomy complications are not very common, but once in a while a few complications still occur, one of which is wound infection[6]. In most instances the infecting organisms are the normal inhabitants of the lumen of the appendix which are the gram-negative non- spore forming rods, streptococcus faecalis and the anaerobes[7]. Most of these micro-organisms except the anaerobes are usually sensitive to gentamicin. Gentamicin is also cheap, safe and readily available in our country, that is why it was used for this study. Some recent workers[8,9] showed that single prophylactic dose of antibiotics is as effective as multiple doses in the prevention of postoperative wound infection. In our geographic zone, some surgeons still use a full course of various antibiotics in appendicectomy for acute appendicitis. It was therefore decided to carry out this study, compare the wound infection rate in patients given a single prophylactic dose of gentamicin versus those given multiple doses of the same drug.

PATIENTS AND METHODS

One hundred consecutive African patients that had appendicectomy for uncomplicated acute appendicitis at the University of Benin Teaching Hospital between November, 1988 and November, 1989 were included in the study. The following information was elicited from each patient; sex, age, religion, occupation, social class, income, diet, symptoms, signs, full blood count, operative findings, operating time, hospital stay, postoperative complications and histological report of the appendicectomy specimen. The patients were randomly allocated to group 1 (Gi) or group 2 (G2) by picking one out of a hundred pieces of paper numbered 1-100. Patients who picked odd numbers were allocated to group 1 (Gi) and those who picked even numbers to group 2 (G2). Both groups had 50 numbers each. Patients in group 1 had a single intravenous injection of gentamicin (2 mg per kg) at the induction of anaesthesia while those group 2 had similar treatment followed by an eight hourly injection of gentamicin postopcratively for five days. Features of wound infections like fever, pain, induration, swelling and purulent discharge from wound was noted in the immediate six postoperative

days, then at 2 weekly intervals for subsequent 3 months after discharge from the hospital in the clinics. A wound was considered infected if there was discharge of pus spontaneously or on incising it. The data was statistically analysed. P-valuç less than 0.05 (P 0.05) was considered to be statistically significant. Chi square test was used for discrete values while student t test was used for continuous values.

RESULTS

Of 100 patients included in the study, 76 were females. The mean age for the males was 25 ± 7 years and it was 26±6.6 5 years for the females. The overall mean age was 23.30±6.82 years. The maximum age was 50 years while the minimum age was 10 years. In group 1 (Gi) the mean operating time was 35.9± 5 minutes, mode 35 minutes, median 36 minutes, minimum time was 20 minutes, maximum time was 55 minutes and range was 35 minutes. In group 2 (G2) the mean operating time was 36.4±2 minutes, mode was 36 minutes, median 35 minutes, minimum operating was 22 minutes, maximum 60 minutes and range 38 minutes. There was no statistically significant difference in the mean operating time between the two groups. P = 0.70, t value = 0.39. None of the patients in either groups had wound infection, P =1X2 = 0.

DISCUSSION

There was no statistically significant difference in the postoperative outcome between the patients that received single and multiple prophylactic injections of gentamicin in this study. This finding agreed with that of David et al[8] and Corr et al[10]. Antibiotics are helpful in the prevention of postoperative sepsis. In this study, the patients in the two groups bad a high level of antibiotics in the blood during the operation and this must have been responsible for the prevention of sepsis in both groups. This study therefore, suggests that in uncomplicated appendicitis, a high level of the appropriate antibiotics in the blood during tissue contamination is sufficient for the prevention of postoperative sepsis.

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