ANTIMICROBIAL AGENTS IN ELECTIVE APPENDECTOMY

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Infection of surgical incision results in prolonged hospital stay and increase in the cost of medical care. The chances of wound infection in gastrointestinal (GI) surgery are relatively more due to the organisms in GI tract and more so in the case of distal part of the intestine due to the large proportion of anaerobic bacteria. Though, the risk of infection is less than 10% in clean-contaminated wounds such as elective appendectomy, the undesirable consequences of even an occasional infection justify surgical prophylaxis⁽¹⁻³⁾. The selection of appropriate antimicrobial agents (AMAs) is determined by several factors². A review of practice would reflect on the adherence to guidelines for rational prophylaxis.

A retrospective study was undertaken to find out the prescribing pattern of AMAs for prophylaxis in elective appendectomy. The case records of all patients (101 males, 62 females) who underwent elective appendectomy in one year (April 1998 to March 1999) at BP Koirala Institute of Health Sciences, Dharan, Nepal, were analysed. The mean age of the patients was 26.55 years (range 8-70) and 34% of them were in the age group between 11 to 20 years. The average duration of stay in the hospital was 3.64 days. The mean number of AMAs prescribed per patient was 2.00 and fourteen of them were prescribed only ciprofloxacin (table I).

Pattern of administration of antimicrobial agents (AMAs) in surgical prophylaxis in elective appendectomy (n=163)*

* AMAs were administered by i.v. route in the first 24 h and later by either i.v. route or oral route.

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The AMAs prescribed consisted of metronidazole (148, 90.79%), ciprofloxacin (146, 89.57%), ampicillin (17, 10.42%), gentamicin (15, 9.20%) and cloxacillin (14, 8.58%). In all, AMA prophylaxis was given by intravenous route in the first 24 hours. Out of the 163 patients, the duration was between 24 and 120 hours in 91 patients (55.82%) and beyond 120 hours in 35 patients (21.47%). No reasons were recorded for the extended duration of surgical prophylaxis.

The selection of AMAs was appropriate as their antibacterial spectrum was adequate to cover common pathogens including anaerobes and was less expensive than second generation cephalosporins (cefotetan, cefoxitin) which are usually recommended⁽²⁾. The half life of the AMAs [ciprofloxacin (4 h) and metronidazole (8 h)] was adequate to provide antimicrobial cover for the intraoperative period in single dose and extension of administration into the postoperative period was not required. However, the data revealed that AMAs were prescribed for unduly prolonged period in nearly half of the patients. As the study was retrospective, we were unable to find out the possible reasons for this extended prescribing and were not sure whether it was due to lack of clear written instructions in the case records. It is very

important to limit surgical prophylaxis in elective appendectomy to either 24 h postoperative or less. The reason for any extension in the duration of administration beyond 24 h needs to be written clearly in the case records.

The present study is just an attempt to look at the prophylactic practice in elective surgery to devise suitable intervention methods. A periodical review would act as a motivator to prescribers to adhere to recommended guidelines. Development of antibiotic policy in relation to the local sensitivity – resistance pattern of the organisms is essential for appropriate use of AMAs in prophylaxis.

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