ANTIBIOTIC PROPHYLAXIS IN SURGERY: AN OBSERVATIONAL PERSPECTIVE STUDY AT SOME DEPARTMENTS OF AN ITALIAN UNIVERSITY HOSPITAL

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Background: Surgical wound infections are among the most important post-operative complications (1-2). Although appropriate antibiotic prophylaxis reduces the incidence of these infections, international protocols for antibiotic prophylaxis are not always followed (3).
Objective: The aims of this study were to: a) evaluate the surgical prophylaxis practiced by surgeons in several departments of the Second University of Naples (SUN); b) compare local procedures for antibiotic prophylaxis with international guidelines; c) conduct an epidemiological bacterial investigation to evaluate correlations between the aetiology of the infection and the antibiotic administered; d) implement therapeutic protocols for antibiotic prophylaxis at the SUN.
Methods: During this 6-month observational prospective study, we collected data from five surgical teams: two General Surgery, two Orthopaedic Surgery, and one Obstetric Surgery. Information about the surgical intervention and antibiotic prophylaxis were collected on a form, which was completed by the surgical team. Patients also underwent a bacteriological investigation, through the use of nasal, pharyngeal and rectal tampons. All data were inserted in a database and analysed with the Microsoft Access 2000 software.
Results. A preliminary analysis of 506 forms (79.6% included antibiotic prophylaxis) showed that third-generation cefalosporines (ceftazidime 27.3%, ceftriaxone 25.4%, and cefotaxime 21.1%,) were the most frequently used antibiotics for clean-contaminated operations overall**.** In the Obstetric Surgery department, penicillin (ampicillin) was the antibiotic of choice for clean-contaminated operations. In the two Orthopaedic Surgery epartments, third-generation cefalosporines were more frequently used. The mean duration of prophylaxis was six days. In 29.5% of cases prophylaxis was given before surgery, in 6.7% intra-operatively, in 16.6% after surgery, in 19.5% on the day of surgery, and in 27.6% the time of antibiotic administration was not recorded. The micro-organisms more frequently isolated were the *Staphylococcus spp, Gram-negative bacteria and Enterococcus spp*.
Conclusions: These preliminary data show non-compliance with international standard protocols for antibiotic prophylaxis, and suggest that surgeons do not refer to international guidelines for the class of antibiotic to be administered, treatment duration, or the time of administration (3-4). The second step of this study will be to devise therapeutic protocols for antibiotic prophylaxis, and to implement these protocols in the surgical departments of the SUN.

References

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