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TITLE: PREVENTION OF NOSOCOMIAL LUNG INFECTION IN VENTILATED PATIENTS: SELECTIVE DECONTAMINATION VERSUS ENDOTRACHEAL ADMINISTRATION OF AMINOGLYCOSIDE ANTIBIOTIC

AUTHORS: A. Bach, M.D., H. Böhrer, M.D., H.K. Geiss*, M.D., E. Martin, M.D.

AFFIL.: Anes. Dept. and Microbiol. Dept.*, University of Heidelberg, D-6900 Heidelberg, Germany

Patients requiring mechanical ventilation are at particular risk from nosocomial lung infection which is associated with high rates of morbidity and mortality. Prevention of endogenous colonization of the oropharynx, digestive tract and tracheobronchial system by the use of topically administered antimicrobial drugs might reduce the incidence of lower respiratory tract infections in these patients.

After institutional approval 190 patients on controlled mechanical ventilation for longer than 4 days (July 1989 until December 1990) were prospectively included in this study. The severity of disease was classified according to the Acute Physiology and Chronic Health Evaluation system. Patients showing any signs of infection on admission were excluded from the study. Positive diagnosis of nosocomial pneumonia was made according to generally accepted definitions using clinical, radiological and microbiological data. Cultures were obtained from tracheal aspirates (*ta*) as well as from urine samples. Microorganisms were identified using standard microbiological techniques. The chi-square test with Yates' correction was used to compare data. Differences between groups were considered significant at $p < 0.05$ (*).

Patients were randomly allocated to one of 3 groups: Control group A (n=68) received no topical antibiotic agent, and group B patients (n=60) were given 40 mg of tobramycin at six-hour intervals intratracheally. In group C (n=62), selective decontamination consisted of 50 mg of polymyxin B, 80 mg of tobramycin dissolved in 10 ml of 0.9% saline, and 300 mg of amphotericin B suspension instilled into the oropharynx at six-hour intervals.

The 3 groups were similar with regard to age, severity of illness and use of invasive procedures and systemic antibiotics. Our results (table 1) demonstrate a significantly lower rate of bronchopulmonary infection in both study groups (B,C) as compared to the control group (A). Colonization by candida species (*C spp* $> 10^4$ in *ta*) and infection (IgM-antibody titer *C spp* $> 1:1260$) was highest in group B.

Although the overall mortality was similar in all groups we conclude that nosocomial pneumonia can be reduced by topical application of antibiotics. To prevent selection of candida species associated with endotracheal aminoglycoside administration we prefer the selective decontamination technique.

Table 1: Results (in % of patients in each group)

	Group A	Group B	Group C
Pneumonia	47.0	23.3*	20.9*
Colonization <i>C spp</i>	8.8	46.6*	4.8
Infection <i>C spp</i>	4.4	18.3*	1.6

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TITLE: INCIDENCE AND OUTCOME OF PATIENTS WITH POSTOPERATIVE T-WAVE ABNORMALITIES IN RECOVERY ROOM: A RETROSPECTIVE ANALYSIS

AUTHORS: S. Chhangani, MD, K. Nedumgottil, MD, R. Kartha, MD

AFFILIATION: Anes. Dept., Cook County Hospital, Chicago, IL 60612

In our institution, pre- and postoperative electrocardiograms (ECGs) are commonly obtained in patients at risk for perioperative myocardial ischemic event. We took this study to determine the incidence of T-wave abnormalities in postoperative period and correlate with evidence of acute myocardial injury and patient outcome.

Out of 1500 postanesthesia discharge sheets examined, medical records of 30 patients who developed new T-wave abnormalities on 12 lead ECG postoperatively in Recovery Room were randomly studied. A 12 lead preoperative ECG was available for all these patients for comparison. All patients with new T-wave abnormalities significant of ischemia were included in our standard Recovery Room "rule out myocardial infarctions (MI)" protocol by three sets of 12 lead ECGs and cardiac enzymes with CPK isoenzyme fractionation at 8 hour intervals. All patients had continuous ECG monitoring (lead II or V5) in Recovery Room until MI was ruled out. In addition to ECG, the following data were obtained for each patient: Age, sex, ASA classification, operative procedure, anesthetic technique, presence or absence of coronary artery disease and its risk factors, and associated medical problems. Each author independently reviewed and compared all pre- and postoperative ECGs and the diagnosis of new T-wave abnormalities which were significant of ischemia was supported by a cardiologist's expert review of ECGs.

Of the 30 patients, 11 patients (36%) had significant T-wave abnormalities and 19 patients (64%) had nonspecific T-wave changes in ECG. Out of 11 patients who developed significant T-wave changes, 2 patients (6%) had positive MB fraction, 10.4% and 2.7% respectively. One patient who had 2.7% MB fraction, developed hypotension intraoperatively which was treated with neosynephrine. One patient developed T-wave abnormality because of hypokalemia postoperatively that was resolved with intravenous potassium administration.

The effects of anesthetics, narcotics and the presence of surgical pain can mask the presence of chest pain in the immediate postoperative period. In view of the high morbidity and mortality associated with perioperative myocardial ischemic events, routine postoperative ECG and continuous ECG monitoring in Recovery Room of these patients is justified. This study shows that postoperative ECG changes are not uncommon. Non-ischemic changes in T-waves morphology have been associated with a variety of conditions and surgical procedures. It is difficult to hypothesize whether the T-wave abnormality in postoperative period represents non-ischemic repolarization or myocardial ischemia. But further follow-up of these patients did not show evidence of myocardial injury. However, a study, using a large pool of such high risk patients, is required to evaluate the cost effectiveness of postoperative ECGs and monitoring in critical care facility.