



Book of Abstracts

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HANDLING OF ANTINEOPLASTIC AGENTS- ITALIAN GUIDELINES AND THOSE OF OTHER COUNTRIES

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Aim. In 1994 the Italian National Institute for Prevention and Safety on the Workplace organized a Working Group on the occupational risk of handling antineoplastic drugs. The working group was asked to address these tasks: pathological effects in humans, early biological effects, exposure measurements, health surveillance and guidelines for health and safety of employees. In this paper we present the main topics of the Italian guidelines in comparison with those of other countries.

Results. Guidelines proposed in Italy stated that the exposition levels has to be maintained as low as readily achievable. Differently from other countries the Italian guidelines suggest the creation of chemotherapy antineoplastic handling units. The unit has to be centralized, isolated, protected and monitored. The access has to be permitted to Pharmacy, Oncology and Hematology personnel only. In the units should be available an appropriate ventilatory device (vertical laminar flow hood). The employees have to use gloves, protecting apron, mask and protecting goggles. Medical surveillance programs should be offered by the employer including physical examination and laboratory studies. Waste which have been in contact with cytostatic agents must be treated and discarded with specific working operation procedures. At the chemotherapy unit has to be available written guidelines for handling of cytostatics, for first aid procedures and for maintenance of the hood.

Conclusion. The majority of countries do not have any guidelines or legislation concerning cytotoxic agent handling. The most important differences between Italy and other countries that have guidelines are regarding the chemotherapy antineoplastic handling unit, the provision for health surveillance of personnel and the kind of hood suggested. In particular in some guidelines (e.g. The Netherlands, United Kingdom and Portugal) there are not provision for pregnant and breast feeding employees. Other differences are regarding the working procedures for preparation, administration and waste disposal.

RISK OF CYTOMEGALOVIRUS INFECTION AMONG EDUCATORS AND HEALTH CARE PERSONNEL SERVING DISABLED CHILDREN

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Introduction

Cytomegalovirus (CMV) infection is an important infectious cause of congenital disorders and has been linked to occupation. It has been stated that children born to women providing care to young children have a higher risk of congenital disorders due to this infection. Studies have described the risk to hospital staff and day care settings. However, little is known of other occupational groups such as educators serving disabled children.

Aim

To determine the risk of cytomegalovirus (CMV) infection for personnel who provide services to young disabled children.

Method

We compared prevalence and incidence of CMV in a group of educators with a group of nurses working in homes for the elderly, female staff, aged 20-40 years and not currently pregnant were invited to participate in the study.

Results

In the initial survey serologic studies were performed on 283 educators and 294 nurses. Both groups were comparable for "classical" risk factors for CMV infection. Prevalence of seropositivity was 15.9% in the educators and 18.4% in the nurses. After a 1-year period 182 of the educators and 157 of the nurses who were initially seronegative for CMV were retested for serologic evidence of CMV infection. The people who were not tested had either left their jobs, become pregnant and not working any longer or refused to participate. The annual seroconversion rate was 1.0% in educators and 1.5% in nurses.

Conclusions

Prevalence of CMV antibodies among both educators and nurses did not differ and was low compared to that in American studies of comparable populations. Annual seroconversion rates were not different in both groups.

RISK OF TUBERCULOSIS TRANSMISSION AMONG HOSPITAL WORKERS AT A 1000-BED INNER-CITY HOSPITAL

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Aim: This study was performed to evaluate the risk of nosocomial tuberculosis (TB) transmission among hospital workers (HWs) in a wide range of occupations at a public 1000-bed inner-city hospital. In addition to identifying subgroups of concern, these data will provide a baseline for ongoing assessment of purified protein derivative (PPD) conversion rates in light of workplace modifications designed to decrease the risk of TB transmission among HWs.

Methods: A retrospective cohort study was conducted among approximately 7000 HWs. PPD skin test conversions were assessed between January 1, 1990 to September 30, 1992 to determine whether HWs employed in certain work areas and occupations with potential exposure to patients infected with TB or to laboratory specimens from infected patients are at increased risk of nosocomial TB transmission. Personnel and employee health records were reviewed to determine work history, demographic and socio-economic factors, and PPD skin test status. Rates of PPD conversions in selected subgroups of the patient and patient-specimen exposed cohort were analyzed. When appropriate, conversion rates were examined with respect to the number of culture positive TB patients hospitalized in specific work areas. These rates were compared to the rates among hospital workers with no known occupational exposure to TB.

Results: In a preliminary data analysis, the frequency of conversion was 7.7% in HWs who are in contact with patients or their laboratory specimens as compared to 2.5% in HWs who have no such contact. The proportion of HWs with PPD conversions appeared to be elevated in certain subgroups which included: lab workers, housekeepers, workers involved in the delivery of emergency services, phlebotomists and respiratory therapists. Additionally, PPD conversions were significantly elevated among nurses and ward clerks with the frequency of conversion related to the number of positive TB cultures from the wards on which they worked.

Conclusions: The frequency of TB conversion is increased in workers with exposure to patients and possibly patient lab specimens as compared to other HWs. In nurses and clerks, the risk seems to be related to a proxy measure of occupational TB exposure. In other groups, such as housekeepers and laboratory workers, there appears to be a risk associated with occupation, but the relative contribution of occupational factors to overall TB conversion rates is less clear.

PREVENTING OCCUPATIONAL EXPOSURE TO BLOOD-BORNE PATHOGENS IN HEALTH CARE WORKERS

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Aim. A major occupational hazard for health care workers is accidental exposure to blood-borne viruses, such as human immunodeficiency virus (HIV) and hepatitis B. In the late 1980s a set of recommendations, known as Universal Precautions (UP), were developed in the United States which specified work practices (e.g., never recapping needles) that would provide barrier protection for health care workers. Despite enactment into law of UP, however, compliance with UP recommendations has been found to be as low as 44% in some hospitals (Kellen et al., 1990). The present study sought to determine the variables that reliably predict compliance with UP recommendations among health care workers.

Method. Participants were 450 nurses employed by a large U.S. hospital. Compliance with UP was measured by a 12-item survey that assessed how often nurses followed UP recommendations. Three types of predictor variables were tested: individual-level variables (e.g., demographics, fear of AIDS), job/task-level variables (e.g., perceived job hindrances, stress), and organization-level variables (e.g., performance feedback, safety climate). Hierarchical multiple regression was conducted in which the individual-level variables were entered first, followed by job/task and then organization-level variables.

Results. Results indicated that individual-level variables did not predict compliance with UP, but job/task variables (i.e., perceived job hindrances) explained a significant proportion of the variance in compliance with UP ($R^2 = 12\%$). An additional 6% of the variance in compliance was explained by the organization level variables, with two measures being significant: performance feedback and safety climate.

Conclusion. These findings strongly suggest that attempts to improve worker compliance with UP should include a focus on job/task and organization factors for change. Knowledge and awareness of HIV and UP are necessary but not sufficient for worker compliance with UP. The importance of a hospital's safety climate in promoting compliance with UP is also discussed.