

CORRESPONDENCE

The effect of occupational exposure to mercury vapour on the fertility of female dental assistants

Editor—Rowland *et al* found lower fertility among women who did not work with amalgam compared with women exposed to low levels of mercury.¹ Other exposures to mercury incurred by dental assistants who do not work with amalgam was offered as a possible explanation.

In 1994 as health and safety representative for a surgical ward at a metropolitan hospital, I found that 60% of trays at the base of sphygmomanometers, wall mounted, at the head of each patient's bed, contained leaked mercury.² Nurses unprotected hands are often in this cuff tray. The inspecting authorities, with a Jerome analyser, found mercury vapour concentrations of 85 µg/m³ in the breathing zone of a patient at one bed. This is of course the work zone of the nurse. The rate of replacement of thermometers for the complex was 750/month, which becomes 72 kg mercury/10 y at 0.8 g/thermometer. Cases of acrodynia caused by one broken thermometer in the domestic environment are documented.³ No mercury hygiene protocol was in place.

With the same poor hygiene factors that Rowland *et al* used to assess risk of exposure to vapour—for example, hand contact with mercury—general nurses seem to be at risk. With factors such as lack of knowledge of general nurses about mercury toxicity and the appropriate hygiene protocol,⁴ a reported rate of leakage from hospital sphygmomanometers of 48%,⁵ the absence of hazard warning labels on sphygmomanometers (mercury is a classified hazardous substance), the hazard to sphygmomanometer repairers having been unreported until 1986,⁶ the understandable focus of medical professionals on accuracy rather than safety in blood pressure measurement,⁷ and reported poorer reproductive outcomes for general nurses,^{8,9} it becomes difficult not to conclude that general nurses are chronically exposed to mercury.

If the unexposed group in the paper of Rowland *et al* were taking blood pressures and temperatures, exposure to mercury is suggested. Dentists have shown interest in the suggestion that general nurses are exposed to mercury from sphygmomanometers and thermometers because a percentage of clients who choose non-amalgam restorations will be general nurses.¹⁰

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Potential public health problems of asbestos in Jamaica

Editor,—Bad industrial hygiene practices, improper waste disposal methods of potentially harmful materials, and public ignorance of these subjects can breed serious public health problems, especially in developing countries. Alarmed by the deplorably callous attitude of construction workers towards safe asbestos disposal procedures,¹ we sought to determine how pervasive these risky procedures are in Jamaican industries and if there are morbidities or mortalities caused by asbestos.

Pipes manufactured at a former (1969-85) asbestos cement factory (now a food store) should, from the documented formulation² and verbal accounts of former employees, have been of standard composition (about 3.3-4.3% crocidolite, 7.5-10% chrysotile, and 85.7-89.2% cement). Analyses (powder x ray diffraction) of four samples, however, taken from the factory site and an associated surface dump nearby, a resident's yard, and the town roadside, showed the presence of crocidolite (a carcinogen^{3,4}), not chrysotile. Most importantly, these materials were improperly disposed of. Some of them are freely chipping and eroding due to poor quality⁵ and have been used by residents as flower pots, foundations to dwellings, garbage dumps, and driveways (some of which were obtained as original wet mix) in the residents' yards, or appear along dusty roads, and roadsides accessible to playing children.

Six samples of ceiling tiles from a modern office building in Kingston contained either amosite or wollastonite fibres. Disposal was implemented by a major real estate company in the presence of one of us (IAK); the exercise generated much dust but the workers resisted instructions to wear dust masks remarking that "this is how we always do it". The methods used by the disposal contractor and the landfill site are unknown (Jamaica has no authorised landfill site for asbestos). These deplorable disposal methods for asbestos materials are also practised at a power plant and a brake shoe and clutch refurbishing facility. The workers in these factories were found to be lax about hygiene but there are institutional worker safety and health monitoring measures for factories. Samples of insulation materials (34 in house and one for this study) from several boilers at the power

plant contained principally amosite and anthophyllite with tremolite, crocidolite, and actinolite impurities. The brake and clutch lining mix and raw material samples (two) contained chrysotile.

Hospital records showed two cases of asbestosis with a history of occupational exposure to asbestos (thermal insulation). Of the 9200 postmortem reports (1971-94) at the University Hospital of the West Indies three cited mesothelioma as the cause of death but the histories of the deceased were not clear. There are five additional deaths suspected to be related to asbestos. The incidence of mesothelioma (about 0.03%) is small compared with 0.2-0.7% for some European communities,⁶ but this could be due to diagnostic difficulties,⁷ few necropsies, or insufficient time because of mesothelioma latency.³

Clearly this study, the first for the Caribbean, shows a potentially serious public health problem related to asbestos; a detailed investigation that includes man made mineral fibres is in progress.

We thank the UWI Centre for the Environment and Development for financial support and Drs M Lowe and B Hanchard for the medical data.

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NOTICES

IHF 60th ANNUAL SCIENTIFIC MEETING, Occupational Health and Safety — Past - Present - Future. 11-12 April 1995. Pittsburgh, PA, USA.

Among the topics planned for discussion are: occupational health and safety, ergonomics, toxicology, tuberculosis, EMF, industrial ventilation, occupational medicine and nursing, OSHA regulations update, licensing and certification, and risk assessment.

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