Facts about Asbestos

OHCOW Report

By Jenny Schieman, RN

Hundreds of workers have registered at the Occupational Health Clinic for Ontario Workers simply to document their occupational exposure to asbestos. Others have registered with respiratory symptoms (i.e., shortness of breath, cough and/or wheeze). The common concern among these workers and their spouses is significant asbestos exposure. Chest X-rays are obtained and, to-date, approximately 600 of these X-rays have shown the presence of pleural plaques.

Pleural plaques are scars detected on the outside lining of the lung, and there are many conflicting medical opinions regarding the significance of this finding. One indisputable fact is that pleural plaques confirm asbestos exposure. From the chest X-ray reports we have obtained at our clinic, it appears that pleural plaques are a common finding within our community.

Of the 2,895 patients registered at the clinic, approximately 25 to 30 per cent of the workers still living show evidence of pleural plaque formation. Contrary to what many believe, this is not solely the legacy of Holmes Foundry. Within the clientele at OHCOW, we have documented evidence of pleural plaques as: 32 per cent of the 650 construction workers; 35 per cent of the 312 petrochemical workers; 16 per cent of the foundry workers; 44 per cent of the 64 rubber workers; six per cent of the 185 fiberglass workers; and three per cent of the 1,149 workers from other industry. Our numbers certainly uphold studies which generally find about one-third to one-half of workers exposed to asbestos will have calcified pleural plaques 30 years after first exposure. (This time span is termed as "latency period.")

Several studies have shown that people with pleural plaques have an increased risk of developing more serious lung disease. If you smoke (or have ever smoked), are more than 60 years of age and have had exposures to other carcinogens, your risk for the development of serious disease is substantially higher.

Rightfully so, workers are concerned for their health and what the future holds for them.

The finding of pleural plaques places the added burden of the unknown on workers. No one can predict what the future holds and no one can give them odds for the development of a more serious lung disease. Workers who once planned for retirement are now questioning whether they will live to enjoy their retirement.

Asbestos is a known carcinogen and the question becomes, "Is there a safe level of exposure to asbestos?" The answer is, "No."

Will all workers exposed to asbestos develop pleural plaques? The answer to this is not clear. The development of pleural plaques is, for the most part, biologically determined by an individual's own immune system. Through interviewing workers we can confirm this. We have met with insulators who have worked with asbestos for 20 or more years and present no evidence of pleural plaques. I have interviewed men who were exposed to asbestos as teenagers during summer employment with evidence of pleural plaques.

In an article, Castleman and Ziem (1988) state, "The very concept of safe exposure to any chemical is inherently unscientific. Indeed, the term threshold limit embodies this unproven and probably unprovable concept that there is some known level of exposure that does not adversely affect the organism. Discarding the threshold limit is a necessary first step in correcting this false ideology."

Disturbingly, workers continue to have unsafe exposure to asbestos. The Ontario Occupational Health and Safety Act, Regulation 837, 4 (1), (2), directs that any employer shall reduce exposure to a TWA* of 0.1 up to 1.0 fibres per cubic centimeter of air, dependent on the type of asbestos. The regulation further sets a maximum concentration of exposure in any period of time not to exceed 0.1 up to 5.0 fibres per cubic centimetre of air, again dependent on the type of asbestos. Is this not too high?

Workers with a history of asbestos exposure should have regular follow-up and must have the opportunity to review these results with a physician.

Information packages on pleura plaques are available at OHCOW.

**TWA:* Time-Weighted Average (the average of the airborne concentration to which a worker is exposed in a workday or a workweek)

Reference: 1. Castleman, B: Corporate influence on threshold limit values. American J Industrial Medicine (1988), 13 (5)

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