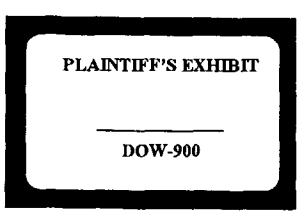
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Asbestos Worker's Sputum Yeilds Clues to Lung Lesions

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Asbestos workers' sputum yields clues to lung lesions

A group of Texas pathologists is obtaining excellent results by using sputum cytopathologic techniques to screen former asbestos workers.

S. Donald Greenberg, MD, and colleagues reported to the joint meeting of the American Society of Clinical Pathologists and the College of American Pathologists on the Tyler (Tex) Asbestos Workers Program. The study is being carried out by the Baylor College of Medicine and the East Texas Chest Hospital, Tyler. Dr Greenberg is a professor of pathology at Baylor, and his colleagues are George A. Hurst, MD; William T. Matlage, MD; Charles S. Christenson, MD; Irby J. Hurst, MD; and Linda C. Mabry, CT.

From 1954 to 1972, a total of 890 men worked at the Tyler plant where South African asbestos was processed. The investigators reported on their results in screening 456 of the former workers.

Pulmonary changes were found in most of the workers: one third of the men had ferruginous bodies in their sputum while 217 had mild squamous epithelial atypia, 18 had severe atypias, and two had squamous cell carcinoma.

Asbestos workers are considered to be at high risk for lung cancer, but the results of the Tyler study do not yield any clear evidence on this point so far.

"Most of the workers are heavy cigarette smokers, and at this time the two cases of lung cancer could be explained on that basis," Dr Greenberg said in an interview. "Furthermore, about 40% of the ex-workers are under 40 years of age and thus, based on the work of Dr Selikoff (Irving J. Selikoff, MD) and others, the critical period for the development of lung cancer would come around the mid-1980s.

"We plan to screen and to follow up as many of the workers as possible—and we are also trying to get them to stop smoking cigarettes."

Each of the former workers will have a complete interview, physical examination, and laboratory diagnostic studies. The sputum is collected by aerosol inhalation at the clinic and from early morning coughing at home. Cases of suspected carcinoma—either on the basis of sputum cytopathology or chest roentgenogram—are followed up by bronchoscopy, thoracotomy, and other means.

Both of the men with lung cancer were elderly (78 and 74 years old) and had worked for long periods of time in the sawing room. Both of them were also heavy smokers.

"The presence of ferruginous bodies is not in itself a marker for severe atypia," noted Dr Greenberg. "We don't know their significance as yet, but their presence does seem to be linked to the amount of exposure." He noted that 88% of workers with at least 15 years in the plant had ferruginous bodies in their sputum, compared with only 15% of those with less than six months' exposure.



Rod-shaped ferruginous bodies in the sputum of a former asbestos plant worker at Tyler, Tex.

Ferruginous bodies occurred in the sputum of 11 of the 18 workers with severe atypia. One of these 18 had worked in the plant for only six days as a maintenance man in 1955; two others had worked for a month. The 18 workers ranged in age from 25 to 77 years (average 52 years) and 17 of them smoked cigarettes.

Present plans call for continuing examination (every six months or sooner) of as many of the 890 workers as the investigators can reach. The investigators also hope to begin a control study of residents in the area of the now-closed asbestos processing plant.

7 states aid organ transplantation

Oregon is the seventh state to offer residents an opportunity to signify on their drivers' licenses that, in case of fatal accident, they wish to be anatomical donors.

Those wishing to do so will carry a driver's license or state identification card (if they are nondrivers) with a "D" designation. The would-be contributor also must carry a signed and witnessed donor card.

Kidney, eye, and cadaver donation programs are among those cooperating under the newly passed state law.

Tennessee was the first state to give its drivers this option, back in 1973. The other states are Kentucky, Maryland, New Jersey, New York, and Washington.

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