FILE NAME: OWILL

DATE: 1997 OWILL100

DOC#: OWILL100

DOCUMENT DESCRIPTION: Letter to the Editor, Medical Journal - Asbestos-Related Cancer and the Amphibole Hypothesis

Letters to the Editor

1997

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Asbestos-Related Cancer and the Amphibole Hypothesis

1. The First Documentation of the Association

An annotation[1] and a paper[2] published in a recent issue of your journal must have confused readers on the subject of the association between exposure to asbestos dust and diffuse mesotheliomas of the pleura and peritoneum. It is important that this situation be clarified, as misrepresentation can affect the use and control of these materials in many countries. As the original discoverer of the development of mesotheliomas in people exposed to asbestos dust,[3] I would appreciate an opportunity to try to clarify the situation.

In 1957, in the Cape area of South Africa, we established that mesotheliomas of the pleura were occurring in people living in the vicinity of mills processing blue (crocidolite) asbestos and in people milling and mining the material. The main paper was published in 1960, and in 1963 we confirmed that the tumors were occurring in the crocidolite mining area, but not in the amosite or chrysotile areas of southern Africa. Southern Africa was

the ideal area for these investigations, as the three main types of asbestos were produced in the same amounts by a similar labor force. In an international study, we set out to see whether the role of crocidolite could be confirmed in other countries. Over the years, our initial hypothesis has held. The vast majority of mesotheliomas are associated with exposure to crocidolite asbestos. A small number of cases have been recorded following exposure to other forms of amphibole asbestos: amosite, tremolite, and anthophylite. No mesotheliomas have been shown to have occurred in chrysotile-exposed workers, unless the exposure has been intense and for more than 20 years. In addition, there must be tremolite contamination of the chrysotile.

Two other facts are of great importance:

1. The majority of these tumors occurred following prolonged exposure to large quantities of fiber. This situation rarely exists today.

2. There is a "natural" incidence of these diffuse mesotheliomas. At least 10% of these diffuse mesotheliomas occur without exposure to asbestos dust, and sporadic cases of these tumors were reported before the widespread use of asbestos. □

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