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Response to Letter to the Editor On the Mortality of Talc Miners and Millers From Val Chisone, Northern Italy

Reply:

The issue of the alleged contamination of talc from Val Chisone was extensively discussed in previous reports on the mortality of the cohort of talc miners and millers,^{1,2} and we did not address it at length in our new report,³ but the letter by Dr. Finkelstein raises again the hypothesis of contamination and requires a detailed response.

This hypothesis was raised in the past, mainly in the framework of litigation, without any published supporting data. Conversely, there is strong evidence that talc from Val Chisone is not contaminated by tremolite or other asbestos fibers. In a 1972 study, Lighfoot et al⁴ reported the results of the analysis of 57 samples from Val Chisone mine: in none of the talc samples, there was asbestos contamination. Tremolite and anthophyllite were present (sometimes in nonfibrous form) in a few specimens of the foot wall rocks. In particular, they analyzed nine samples of "old powders and shipments" (final products), which were all free of any fibrous contamination. These results were quoted in the first mortality study of the cohort of miners and millers, published in 1976.¹ Supporting evidence was provided by a 1982 paper by other authors,⁵ in which results based on X-ray diffraction and infrared reflection spectrometry showed no contamination by tremolite or other amphiboles. Furthermore, in a 1983 report, Pooley⁶ stated:

"White Pinerolo Talc – this powder was found to be the most pure talc observed. The only impurity was a very small quantity of the mineral chlorite. Electron microscopic examination of this powder did not reveal any fibrous mineral particulates. Grey Pinerolo Talc – the major mineral observed in this sample by X-ray diffraction was chlorite and talc was present at the 25–30% level; a small quantity of dolomite was also observed. Again electron microscope examination of this sample did not reveal any fibrous mineral particulate."

The results of the first analysis by Lighfoot et al⁴ were quoted by Gordon et al,⁷ who mistakenly interpreted the presence of tremolite in some samples of the footwall rocks as evidence of contamination of the talc ore and the final product used to produce the cosmetic talc. It is noteworthy the fact that this last paper includes a coauthor named Fitzgerald, that is, the name of the person quoted by Dr. Finkelstein as a source of unpublished analysis of one sample of talc from Val Chisone. The paper by Gordon et al⁷ was criticized by Lee and Van Orden⁸: these authors identified several methodological errors in the study by Gordon et al,⁷ and a severe amount of misinterpretation of literature. We think that the issue of contamination of Val Chisone talc by tremolite or other asbestos fibers should be finally put to rest.

The data of our cohort confirm, with a follow-up extended to a maximum of 66 years,³ our previous observation that occupational exposure to Val Chisone talc is not associated with an increased risk of mesothelioma.^{1,2} In the new study, we observed no deaths from mesothelioma, and could exclude a two-fold excess risk. Dr. Finkelstein's calculation of the statistical power of our study is purely speculative, given the lack of support to the hypothesis of 4% asbestos exposure (or any other value different from zero) compared with Québec miners.

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