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Johnson & Johnson

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Subject: Pathogenicity of Fibers

Mr. George Lee

On June 10, 1977, I had occasion to meet with Dr. Merle Stanton at NIH to obtain an update on current thinking on the carcinogenicity of "fibers". Dr. Stanton has been working for some time in the field of the pathogenicity of fibers and is in constant communication with a small group of researchers working in this field and is generally aware of the status of studies in the field.

It was Dr. Stanton's opinion from discussions with his colleagues and review of research data in animals* that it appeared that fibers of approximately 8 microns in length and ¼ micron or less in width were those probably responsible for causing cancer in asbestos minerals as well as possibly other materials.

It would appear that at this time research is being conducted at Cardiff and by Dr. Potts in Germany to confirm this concept and even ICI in England has made nylon fibers of the appropriate length for animal study.

A meeting of the researchers working in the field will take place in Lyons in mid 1977 where about six researchers will probably discuss the status of their research, what further research should be conducted, and may even be considering the holding of a scientific meeting, although I believe such a meeting will be held in two to three years' time.

If it is found that the fibers identified by Dr. Stanton as being responsible largely for cancer in animals is true, it will then be important to identify the dose of such fibers which produce cancer. Dr. Stanton does not believe Dr. Selikoff's theory that one fiber causes one cancer as there should be many more cases of mesothelioma in the population at large as there are a great many fibers in our environment of the dimension identified by Dr. Stanton. Dr. Stanton believes that a large dose of these fibers is required to produce a tumor, and this is supported by the fact that such fibers must be respired by everyone every day and must

*The intrapleural route of administration of the test dusts is used in the animal studies as it is the best way to produce mesotheliomas. Stanton thinks that pathology produced following intrapleural administration is hard to equate with respiration of fibers.

be present in the many mineral dusts respired by many industrial workers throughout the world.

The available data, as you know, in relation to industrial working of cosmetic talc shows that even in very high doses there is no increase in cancer let alone mesothelioma.

I think that the data being generated on fibers is of interest in scientific circles but may have little practical value except in industrial exposure to high doses of certain asbestos minerals where the critical carcinogenic dose of fibers of a specific dimension is exceeded.

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