

the preceding section, produced a fibrosis; when the material was prepared by first grinding the fibrous dust until the length of fibers was reduced to 20 microns and less or, in some cases, to 3 microns and less, none of the injected dusts caused fibrosis.

These results differ from those of King, et al,¹⁴ (15) who report the production of reticulosis comparable with the experimental silicotic nodule in rabbits receiving monthly intratracheal injections of 100 mg. of Rhodesian asbestos fibers, 15 microns long, and the production of diffuse interstitial fibrosis in rabbits similarly injected with short fibers, 2.5 microns in length. We believe this dose, especially in the long-term rabbits, is highly excessive. In our experiments the dosage was kept low in order to minimize untoward reactions which might obscure the peribronchiolar type of fibrosis which characterizes early human asbestosis.

EXPERIMENTS USING INTRAVENOUS TECHNIQUE

The experiments, summarized in table 17, in which the intravenous method of injection was employed, show that the asbestos minerals are far different from quartz in their action on tissue. It has been repeatedly demonstrated that intravenous injection of quartz particles 3 microns and less in diameter will cause a typical tissue reaction with the development of hyalinized fibrotic lesions in extra-pulmonary sites, such as the liver and the spleen. Asbestos minerals, however, on intravenous injection generally produce only an inert type of reaction, as is revealed by

¹⁴
13. King, E.J., Clegg, J.W. and Ray, V.W.: Effect of Asbestos, and of Asbestos and Aluminum, on Lungs of Rabbits. Thorax 1: 188 (Sept.) 1946. Abstr. in Indust. Hyg. Digest 11: No. 234 (Feb.) 1947.