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INFLUENCE OF POLYVINYL CHLORIDE (PVC)
DUST ON RAT RESPIRATORY SYSTEM

by

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4. GROUP III. CHANGES AFTER CESSATION OF EXPOSURE TO PVC DUST

(RATS Nos. 39-60, OBSERVATION FROM 1 TO 8 MONTHS)

Of the 22 rats in this group, by the end of the first month of observation after cessation of exposure to PVC dust, 6 rats died (Nos. 39 to 44). Upon dissection, in the lungs of all the rats in addition to emphysema and bronchiectasia we detected the presence of numerous nodular or cystoid formations filled with thick, creamy, ropy contents mixed with "mashy" masses. Sometimes the entire lung was composed of thin-walled, cystoid formations. The surviving 16 rats (Nos. 45-60) were killed at monthly intervals (2 rats at a time).

Macroscopic picture. Among the surviving 16 rats, during dissection of 8 animals killed at the scheduled time we determined the presence of apneumatic, fine-lobular, hard nodular foci (Fig. 18), as in the lungs of the animals in Group II. In addition, we observed large, quite soft cystoid formations (Fig. 18), and when cut they were found to have a thin wall and were filled with "mashy" masses mixed with mucilaginous, partially creamy contents.

The changes described above were observed in rats both 1 month and 8 months after cessation of exposure to the dust. In the other 8 rats, after opening the thorax the lungs do not collapse, they are excessively fluffy, pale pink, and during cutting they do not crackle as characteristically as normal lungs. The surface of the cut is pale pink, and dry. Bronchi with widened lumen and roller-shaped wall project from the cut surface. Mucilaginous contents are discharged from them on compression. Scattered slate-like and dot-like foci show through the pleura.

Microscopic picture. Pulmonary emphysema is found in all the animals in this group, though with less intensity than in the rats of Group II. As time passes, blood vessels surrounded by a cuff of lymphocyte-like cells

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