

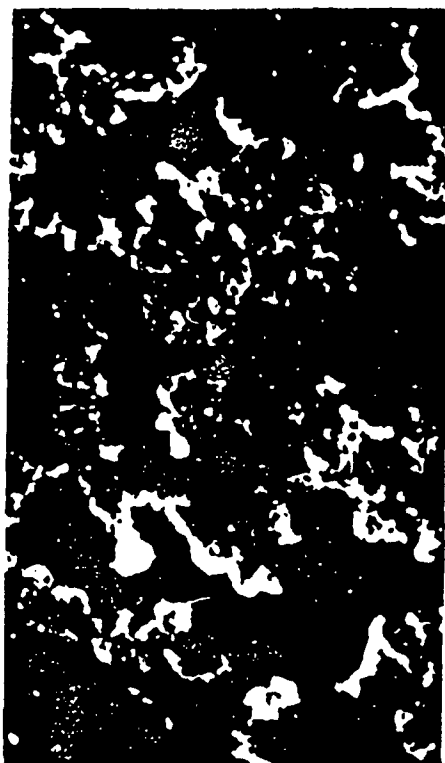


Fig 1.—Ash pattern of acid-insoluble material in lung of rat immediately following intratracheal injection of chrysotile dust. Alveolar ducts are outlined by fairly thick, continuous coating of dust. Some dust, mostly in the form of discontinuous deposits, is also found in some distal alveoli. Section was subjected to microincineration followed by treatment with concentrated hydrochloric acid ($\times 150$).

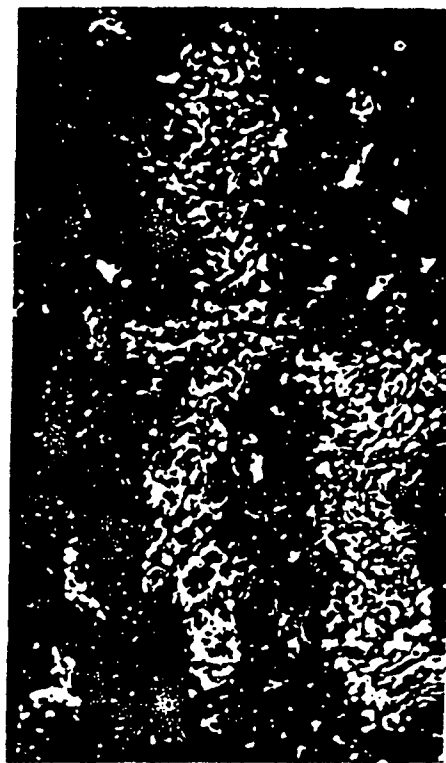


Fig 2.—Ash pattern of acid-insoluble material, three days after intratracheal injection of chrysotile dust in rat. Dust, now in the form of flocculent masses of spiculated aggregates, seems to form casts of alveolar ducts and fills their lumens. Very little dust is noted in the peripheral alveoli ($\times 150$).

ately after the intratracheal injection of chrysotile, the dust was seen applied as a uniform and continuous, dense coating upon the respiratory surfaces of the alveolar ducts and their evaginating alveoli (Fig 1). The lumens were everywhere widely patent. Surface coating by the dust of some of the distal alveoli was also observed, but not regularly.

After 72 hours, the proximal portion of the racemus⁶ was a nearly solid, cellular structure in which the lumens of the respiratory bronchiole and alveolar ducts were obliterated by a polypoid mass of ovoid and plump spindle-shaped cells which also obliterated the lumens of the evaginating alveoli. A highly significant change in the distribution of the asbestos dust was now

observed. The dust permeated the occlusive inflammatory tissue and thereby formed a cast of what was once the lumen (Fig 2). It was, however, no longer compactly disposed; rather, it was distributed in a flocculent manner. Nevertheless, the total amount of dust in the lumens of the alveolar ducts appeared to be considerably greater three days after the intratracheal injection than that present immediately after the injection. At the same time, less asbestos dust was observed in the more peripherally situated alveoli. It is probable that the increase in the amount of dust in the alveolar ducts was derived from the more peripheral alveoli. Although some of the finer dust may have been intracellular, the greater bulk, by far, was extracellular, being imprisoned in the inter-

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