

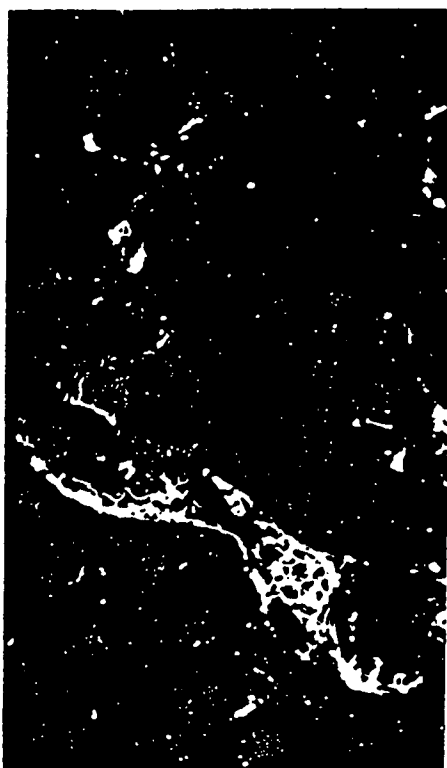


Fig 5.—Ash pattern of acid-insoluble material of same field as in Fig 3 after microincineration and treatment with concentrated hydrochloric acid, showing the presence of tangled masses of asbestos fibers in the regions of the scar tissue ($\times 150$).

represented a healed or healing inflammation. Within this scar tissue, apparently sequestered compact masses of asbestos fibers were often strikingly prominent after microincineration (Fig 5.) On the other hand, many scars were seen that contained little or no demonstrable dust. The sharp delimitation of the scars was accentuated by the adjacent normal delicate alveolar walls. These were characterized by single, nonbranching argyrophilic fibers. Nevertheless, in some of the rats, there were also foci of a more active inflammation. Such foci were marked by cellular thickening of alveolar walls and by considerable desquamation. Here, the stroma was arborescent, the side branches tending to give structural support to the increased number of alveolar cells. Since similar inflammatory foci of cellular alveolar mural thickening



Fig 6.—Hyperplasia of smooth muscle in rat injected twice with 3.5 mg chrysotile dust and killed 21 months later. Well-defined bundles of smooth muscle are found in relation to alveolar ducts where the only normally present muscle is situated around mouths of evaginating alveoli (hematoxylin and eosin, $\times 150$).

ing were also found in the lungs of control rats not exposed to, or injected with, dust, it is believed that they were caused by unrelated spontaneous disease.

No asbestos bodies were found in rats exposed to or injected with chrysotile asbestos dust.

Rats (Inhalation).—The characteristic minimal lesion, as found a year or more after the pulmonary deposition of chrysotile dust, consisted of focal collagenous thickening affecting patches of alveolar duct wall between some of the evaginating alveoli (Fig 3 and 4). With more extensive deposition of the chrysotile fibers, the mural fibrosis tended first to narrow the mouths of the evaginating alveoli and then to close them