Asbestosis Hamster

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Asbestosis in humans is characterized as bilateral, diffuse, interstitial pulmonary fibrosis and is found in persons occupationally exposed, thus affecting miners, insulators, and shipyard workers. The disease in man results in more sever, diffuse pulmonary fibrosis than is observed experimentally in hamsters. Other disorders considered to be related to asbestos exposure in humans, but not documented in hamsters, include hyaline plaques of parietal pleura, carcinoma of the lung, and skin corns (Parkes 1982). Asbestos-induced mesotheliomas of pleura and peritoneum in hamsters are discussed on p. 229. The Stanton hypothesis relates longer fiver length to increased carcinogenicity of asbestos (Harington 1981). Asbestos inhalation in rats produces an initial increase in the number of alveolar macrophages, followed by diffuse interstitial pulmonary fibrosis with prominent hyperplasia of alveolar epithelial cells, several kinds of peripheral lung tumors (primarily adenomas, adenocarcinomas, and squamous cell carcinomas), and mesotheliomas (Wagner et al. 1974). Noteworthy differences in experimental lesions in the rat, compared to the hamster, are the absence of ferruginous bodies and the presence of malignant pulmonary tumors.

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