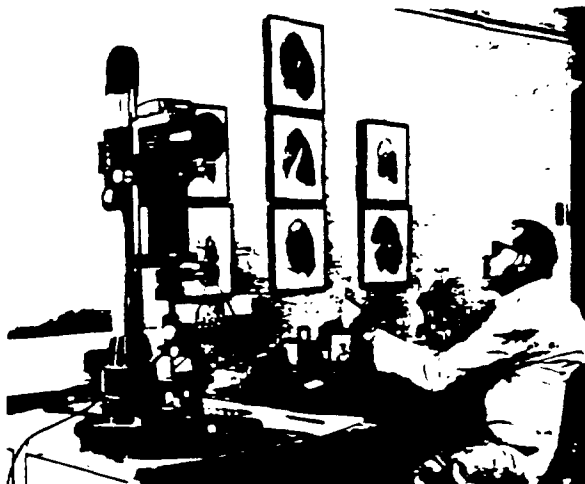


EXPERIMENTAL RESEARCH



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This research is now conducted chiefly in the Industrial Hygiene Research Unit of the Department of Occupational Health, Graduate School of Public Health, University of Pittsburgh; Department of Pathology of the Medical University of South Carolina; and Mellon Institute of Carnegie-Mellon University.

ALUMINUM

As the scientific literature contains conflicting information on the ability of various types aluminum powders of respirable size to produce pulmonary fibrosis, in 1968, experimental animals (rats, hamsters and guinea pigs) were exposed. British and United States produced metallic powder via intratracheal injections and inhalation exposure chambers. The first research phase of this IHF project was completed during 1970. Animals not sacrificed at earlier stages were allowed to live out the majority of their life span, i. e., about two years. Report of research findings, now in preparation for publication, sheds some light on the chief areas of apparent conflict resulting from studies in other laboratories. Certain hypotheses, based on results of IHF's findings to date should be subjected to further experimental proof, therefore, our publication presents a preliminary report of progress. Sponsors: Aluminum Company of America, Reynolds Metals Company, Silberline Manufacturing Company, Inc., U. S. Bronze Powders, Inc. and Valley Metallurgical Processing Company, Inc.)

FIBROUS DUSTS

When fibrous dusts are injected intratracheally, polypoid inflammatory lesions develop within four days in smaller bronchi and bronchioles. These tend to heal and disappear in time. These lesions are not factual in the sense that they are not found in animals inhaling the same dusts. It is therefore reasonable to attribute the proliferative polypoid lesions to the particular technique by which the dusts have been introduced into the lungs. This work has been published: "The Pulmonary Response to Fibrous Dusts of Diverse Compositions." Paul Gross et al. *Am. Ind. Hyg. Assn. J.* 31:125-132 (March-April) 1970.

The method of quantitating the fibrous dust and ferruginous bodies in lungs of Pittsburghers and the results obtained was reported at the Third International Symposium on Inhaled Particles (London September 16-23, 1970) and will be published in the proceedings of this meeting. (Sponsors: Johns-Manville Corporation; PPG Industries; Pittsburgh Corning Corporation; Raybestos-Manhattan, Inc.; U. S. Public Health Service.)

ASBESTOS

Because of an epizooty which decimated the rats and hamsters injected intratracheally with asbestos dust (chrysotile, amosite, and crocidolite) treated in various ways to render the dust metal-free, new animals have been injected with these materials. These new animals are now under observation. Since the purpose of this study is to determine the locus of pathogenicity of asbestos dust — particularly the carcinogenicity — the animals will be allowed to live out their lives. (Sponsor: U.S. Public Health Service)