

- 766 Effect of Neonatal Thymectomy on the Development of Ozone Tolerance in Mice. A.R. Gregory, L.A. Ripperton, and B. Miller. *Am. Ind. Hyg. Assn. J.* 28, 278-282 (May-June, 1967).

Male white Swiss mice, thymectomized at birth, were unable to develop tolerance to ozone when pre-exposed to sublethal concentration of 0.3 and 5.0 ppm of ozone for one hour. On the other hand, tolerance was readily induced in sham-operated animals. Thus the thymus appears to be necessary during maturation for the development of tolerance to ozone. No statistical difference in mortality was shown between mice pre-exposed to 0.1 ppm of ozone and those not so pre-exposed, despite the fact that a larger number of pre-exposed animals survived compared to those not pre-exposed. There are 16 references. -- Authors' abstr.

- 767 Current Status of Arsenic in American Cigarettes. R.H. Holland and A.R. Acevedo. *Cancer* 19, 1248-1250 (Sept. 1966).

A steady decline in the arsenic content of American nonfilter cigarettes has been noted since 1957. The arsenic carcinogen in cigarette smoke probably is triphenyl arsine, which the authors recently found has a carcinogenic activity on mouse skin. There are 10 references -- Abst. cond., Public Health Eng. Absts.

- 768 Specific Response of Mesenchymal Tissue to Cancerigenesis by Cadmium. S.A. Gunn, T.C. Gould, and W.A.D. Anderson. *Arch Pathol.* 83, 493-499 (June, 1967).

Cadmium, even in soluble salt form, was shown to be a potent cancerigen. As little as 0.17 mg to 0.34 mg of cadmium ion as a single injection of cadmium chloride solution to male Wistar rats produced pleomorphic sarcomas at the injection site 10 to 16 months following administration. These small doses were cancerigenic only in tissues of mesenchymal mesodermal origin, such as subcutaneous, subperiosteal and intramuscular sites. No tumors formed in any of the sites of ectodermal (intracutaneous), endodermal (salivary gland, liver, ventral prostate), or epithelial mesodermal (kidney) origin. In comparable molar dose levels cobalt and zinc did not produce tumors in any tissue sites tested for cadmium. The observation that more tumors resulted from injections into subcutaneous than subperiosteal or intramuscular sites and that all tumors formed, even those in skeletal muscle, were fibrosarcomas, suggests that the neoplasia was derived from the injured fibroblasts.

-- J. Am. Med. Assn. References & Reviews

- 769 Acute Pathological Reactions to Administration of Nickel Carbonyl. R.L. Hackett and F.W. Sunderman, Jr. *Arch Environmental Health* 14, 604-613 (April, 1967).

In previous investigations, pulmonary carcinomas have been induced in rats following inhalation of the toxic vapors of nickel carbonyl. In the present investigation, administration of nickel carbonyl parenterally has been studied in an attempt to develop a more convenient and less hazardous method of introducing nickel into the lungs. The LD₅₀ values for nickel carbonyl were found to be 2.2 ± 0.11 mg Ni/100 gm, by injection intravenously; 2.1 ± 0.42 mg Ni/100 gm by injection subcutaneously; and 1.3 ± 0.14 mg Ni/100 gm by injection intraperitoneally. The acute clinical and pathological reactions to injections of nickel carbonyl by parenteral routes developed primarily in the lungs, and to a lesser degree in the liver, resembling the reactions which were previously observed following inhalation of nickel carbonyl. Pulmonary histological changes were characterized by focal adenomatous transformation and by diffuse hypertrophy and hyperplasia of alveolar lining cells, with increased mitotic activity and cytologic abnormalities. The pulmonary parenchyma was found to be the target tissue for nickel carbonyl, regardless of its route of administration. There are 73 references. -- Authors' summary

- 770 Difficulties in the Evaluation of Lead Poisoning. R.P. Collins. *Arch. Environmental Health* 14, 523-528 (April, 1967).

There is no substitute for prevention through education and engineering control. A company's health program should seek the employee's confidence and require the employer's cooperation in correcting hazards, transferring workers when medically indicated, and insisting on safety standards. For the older worker who has already accumulated body burden of lead, regular supervision and treatment is necessary and can be usually done while the worker is on the job. There are 31 references. -- Author's conclusion

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