

- Neurologic Manifestations of Chronic Carbon Monoxide Poisoning. G. J. Gilbert and G. H. Glaser. *New England J. Med.* 261, 1217-1220 (Dec. 10, 1959).

A case report from the Section of Neurology at Yale University illustrates the symptomatology and diagnostic difficulties of this insidious and controversial disease. A policeman aged 50 was found during his second admission to a hospital to have been exposed to 2 common sources of carbon monoxide, duty in heavy traffic and in a badly ventilated garage where police-car radios were often charged by gasoline-driven generators. Afterwards a third source was a gasoline-driven farm tractor with the exhaust at head level. During the first admission the diagnosis was psychomotor seizures and cerebral atrophy, possibly related to an old head injury. Treatment with anti-convulsant drugs which he had had for 2 years was continued. He returned to work improved in health but was re-admitted 8 months later. The occupational history was investigated. Chronic carbon monoxide poisoning was verified by finding the blood to be 20% saturated with carbon monoxide 30 hours after ceasing work. Treatment was stopped. He remained essentially asymptomatic except during the tractor episode. The symptoms, which had begun 4 years previously during traffic duty, were anorexia, weight loss, a fluctuating organic mental syndrome and recurrent episodes of unconsciousness, each attack preceded by dizziness and ataxia, usually in the afternoon. Hyperthyroidism, suggested by sweating and fine tremor, was excluded by metabolic tests, the blood iodine being in the hypothyroid range and the radioactive iodine uptake normal. There was transient albuminuria. Serum glutamic oxalacetic transaminase was slightly elevated. Serial electroencephalograms after withdrawal from exposure showed progressive clearing of focal and paroxysmal abnormalities, correlated with clinical improvement.

-- Cond. from Bull. Hyg.

- 24 Radiometric Extraction Method for Fluoride. Pyrolysis-Ion Exchange Separation. W. J. Maack, G. L. Doonan, M. C. Elliott, and J. E. Rein. *Anal. Chem.* 32, 922-925 (July 1960).

A liquid-liquid extraction technique is used as the basis for the quantitative determination of fluoride. The sample, after pyrolysis or ion exchange treatment, is added to a hafnium solution containing hafnium-181 traces. Trioctylphosphine is added and the extraction carried out; the hafnium retained in the aqueous phase is measured. An inverse linear response is established for hafnium extraction vs. fluoride concentration. -- AC Briefs

- 25 The Dynamics of Sulfur Dioxide Inhalation. Absorption, Distribution, and Retention. O. J. Bulchum, et al. *A.M.A. Arch. Ind. Health* 21, 564-569 (June 1960).

Sulfur dioxide is readily absorbed from the upper and lower respiratory tract even when inhaled in low concentrations (1 ppm). It can be absorbed by the tracheal mucosa when the latter alone is exposed to a degree sufficient detrimentally to influence pulmonary function. After absorption from the sites of deposition in the trachea, bronchi, and lungs, it is distributed to all tissues, including the brain. It can still be detected in the trachea and lungs one week after exposure. The physiologic and metabolic effects of the prolonged inhalations of low-level concentrations of sulfur dioxide are unknown, and experiments are now in progress in an attempt to obtain further data on this aspect of the effects of the inhalation of low concentrations of sulfur dioxide.

-- Authors' summary

- 26 The Role of Roasted Chromite Ore in the Production of Cancer. W. W. Payne. *Arch. Environmental Health* 1, 20-26 (July 1960).

Fractionation by particle size and analysis of the residue from leaching roasted chromite ore reveal that the smaller particles contain a higher percentage of hexavalent chromium than the larger particles. This increases the acute toxicity of the smaller particle size fractions which reach the lung by inhalation. The subcutaneous injection in mice of 3,4-benzpyrene with the residue resulted in a lower incidence of tumors than when the benzpyrene was injected alone or with very insoluble chromic phosphate. The incidence of tumors