

- 990 Multiple Carcinomata Following Ingestion of Medicinal Arsenic. S. Minkowitz.
Ann. Internal Med. 61, 296-299 (Aug. 1964).

A 21-year-old white male was admitted to the Kings County Hospital Center in 1947, because of a painless ulcer of his tongue that had first been noticed 6 weeks earlier. Past history revealed that he had had Sydenham's chorea between the ages of 7 and 16 and that he had taken 10 minims of undiluted Fowler's solution (1%, calculated as As_2O_3) daily between the ages of 7 and 10 on the advice of his family physician; a total dose of 7.8 g. of As_2O_3 as Fowler's solution over a 3-year period during his childhood. He finally bore about 3 dozen warty lesions scattered over the entire body. Many were present on the palms, soles, and trunk. Nine of his lesions were found to be individual primary epidermoid carcinomata. Two of these arose on mucosal surfaces. Seven of the biopsied lesions contained foci of Bowen's disease and one had the histologic characteristics of a keratoacanthoma. Fowler's solution, extensively used for innumerable disorders in the past, has been the medicinal form of arsenic most frequently incriminated in carcinogenesis in the literature. Even relatively minute doses of arsenicals have occasionally been reported to be followed by typical tumor formation. Widely ranging tissue levels of this element in similar lesions from different patients, and a considerable variation among different specimens taken from the same patient, have been found. The quantity of arsenic present in the tissues appears to bear no precise relationship to the dose and duration of the arsenical exposure and to the lapse of time after the exposure. It has been suggested that the presence of this element in a given specimen cannot be regarded as proof of its having an etiological relationship to the lesion at hand, just as its absence cannot justify its being excluded as a causative factor. A brief review of the pertinent literature is presented.

- 991 Carcinogenic Risk of Iron-Dextran. Editorial. Brit. Med. J. 1, 1583 (1964).

In 1960 Imferon, a complex of colloidal ferric hydroxide and low molecular weight dextran, was removed from the market following the demonstration of its carcinogenicity in rats, mice and hamsters. Because the experimental doses were large, it was felt that the risk of therapeutic doses was small and the drug was reintroduced. At that time Haddow felt that carcinogenicity could not be excluded until treated patients were followed up for 15 to 20 years. Haddow's recent demonstration of carcinogenicity in rabbits, followed for 4 years, emphasizes again that iron-induced tumors may not appear in man for another decade. Suggestive evidence that iron may be carcinogenic for man is found in the cause of hemochromatosis, in which there is a higher incidence of carcinoma of the liver than with other types of cirrhosis. Iron is readily removed from the injection site in the presence of anemia, and it is possible that this factor, coupled with the use of doses in the therapeutic range, and changing sites of inoculation, will prevent tumor development in man. Hemosiderosis of the liver with anemia is not accompanied by carcinoma. Whether Imferon can induce tumors in anemic animals remains to be determined. With our present state of knowledge Imferon, administered intramuscularly, should be given only for the treatment of resistant anemias when the immediate benefit outweighs possible future carcinogenicity, and for elderly patients when insufficient time would be likely to elapse for development of tumors even if the risks exist.

-- Can. Med. Assn. J. Absts.

- 992 Toxicological and Biochemical Studies on Some Trialkylgermanium Compounds.
Jill E. Cremer and W.N. Aldridge. Brit. J. Ind. Med. 21, 214-217 (July, 1964).

The toxicity of triethyl- and tri-n-butyl-germanium acetates has been studied after their administration to rats. Both compounds had a low toxicity. Triethylgermanium had less than one-tenth of the toxicity of triethyltin or triethyl-lead and, unlike them, it did not appear to have a predominant action on the central nervous system. In biochemical studies in vitro, tri-n-butylgermanium was found to be more active than trimethyl-, triethyl- or tri-n-propyl-germanium in inhibiting both glucose oxidation by slices of rat brain cortex and processes involved in oxidative phosphorylation by rat liver mitochondria. All the germanium compounds tested had less than one-hundredth the activity of the corresponding trialkyltin and trialkyl-lead compounds.

-- Authors' abstr.

cancer in Connecticut is a significant problem. During the 17 year period of 1935 to 1951 in Connecticut an average of 143 persons died each year from cancer which originated in the mouth. Since that period of time, Connecticut has had its share in population growth and it is fair to assume the current number of deaths caused each year from mouth cancer is now substantially higher. Early detection and early treatment of mouth cancer increases the cure-rates of mouth cancer patients. Since a large percentage of the general population does seek periodic dental care, it is the dentists who are in a particularly advantageous position to play a leading role in early detection of mouth cancer. The new program will be focused on dentists in private practice in Connecticut. Approximately 1,800 in number, this group—more than any other—each year has the best opportunity for providing the largest number of comprehensive mouth examinations in the state. However, the program will definitely not be limited to just dentists in private practice. Also to be invited to participate will be all physicians in the state, including local directors of health, as well as staff members of all hospitals and institutions—especially those caring for the chronically-ill and aged population.

- 969 Medicinal Arsenic Poisoning and Lung Cancer. A.O. Robson and A.M. Jelliffe.
Brit. Med. J. 2, 207-210 (July 27, 1963).

Six cases of bronchogenic carcinoma are reported in patients who had previously developed arsenical skin changes following the therapeutic administration of arsenic. The average interval between the administration of arsenic and the development of cancer was 32 years. All the tumors were anaplastic in type. Although the relationship between the therapeutic administration of arsenic and the later development of lung cancer is unproved, these cases suggest that such a relationship exists. -- Am. Rev. Resp. Dis. Absts.

- 970 An Index of the Fate of Circulating Cancer Cells. W.I.B. Onuigbo.
Lancet 2, 828-831 (Oct. 19, 1963).

Carcinoma of the lung was selected for study because it commonly infiltrates small branches of the pulmonary vein. Metastatic involvement of the renal glomeruli is relatively infrequent, and special attention was focused on this site. One hundred cases of carcinoma of the lung were investigated: a detailed examination of all organs was carried out with a 2- to 3-cm. block from the kidney, which included the capsule, cortex and medulla, and a part of any metastatic lesion present. Of the 100 cases, there was discrete involvement of one or more glomeruli in 10, but there was little difference in the distribution of metastatic lesions in the liver, adrenal, bone, brain, opposite lung, kidney, pancreas, thyroid, spleen, and extra-thoracic muscle, whether or not the renal glomeruli were involved. Because the kidney receives about 25% of the resting cardiac output, many cancer cells must pass through the glomerular capillaries, hence justifying the term "circulating cancer cells." Further investigation of carcinoma metastasis is necessary, and the writer suggests that the blood stream itself should be examined for factors which may determine the fate of the "circulating cancer cells." -- Am. Rev. Resp. Dis. Absts.

- 971 Bronchogenic Carcinoma in Women. R. Buchberger and R.H. Jenny.
Wien. Klin. Wochschr. 75, 718-723 (Oct. 18, 1963). German.

In the last few years the frequency of bronchogenic carcinoma has increased in women as well as in men. Between 1948 and 1960, 120 women were seen with histologically proved bronchogenic carcinoma. Forty-four women underwent resection (20, lobectomies; 24, pneumonectomies), 33 were found inoperable at thoractomy, and 43 were considered inoperable. In the same period of time 974 resections and 445 thoractomies were done in men with histologically proved bronchogenic carcinoma, and 508 men were considered inoperable. In the 1,927 men there were 442 (23%) peripheral tumors; in the 120 women there were 42 (35%) peripheral tumors. Adenocarcinomas were found considerably more frequently in women than in men. The life expectancy of the operated women is slightly better than that of the operated men; the difference is statistically only slightly significant. -- Am. Rev. Resp. Dis. Absts.

of oral cancer detection programs which should include: (1) Education sessions for instructing the dentist as to what constitutes a complete oral examination, including the use of cytology where indicated. (2) Adequate cytology and pathology services for the interpretation of specimens. (3) Consultation service for referring cases for definitive diagnoses and recommendations for treatment. Six references are given. -- Author's summary

- 853 An Oral Cancer Detection Center. S.J. Shackner. Health News 41, 10-13 (April, 1964).

This paper has attempted to show how an Oral Cancer Detection Center can be set up, how it operates and how it functions. The Center provides a central facility in a rural area for case finding, case referral, and professional and public education in oral cancer detection and control. Through the establishment and operation of similar centers, it is hoped that the profession will be motivated and oriented to utilize the diagnostic aids at its disposal. The private practitioner will become more aware of cancer control and realize the advantages of early detection by doing an oral cancer detection examination whenever a patient visits his office. This will eventually make every office an oral cancer detection center which is the one and only way to conquer the problem of oral cancer. There are 10 references.

-- Author's summary

- 854 The Educational Program for Dentists and Physicians (For Detection of Oral Cancer). M.A. Engelman. Health News 41, 16-19 (April, 1964).

The primary objective of an Oral Cancer Detection Center is the early detection of oral lesions so that the cure rate is increased, the need for disfiguring surgery decreased, and the number of deaths from cancer of this site reduced. A secondary objective of the Center is professional education for dentists and physicians, including residents and internes, stressing thorough oral examinations and exfoliative cytology. A final objective is the education of the general public in the prevention, detection, and treatment of oral cancer. There are 15 references.

-- Author's summary

- 855 Epidemiological Consequences of an Arsenic-Lung Cancer Theory. R.W. Buechley. Am.J. Public Health 53, 1229-1232 (Aug. 1963).

The world-wide lung cancer epidemic associated with cigarette smoking may be explained by an epidemiological chain showing excess lung cancer at each step leading from arsenic-high mines and smelters through arsenical insecticides, to lead arsenate spray residues on cigarette tobacco. If arsenic is a major causative carcinogen, the reported situations are only the known examples of many other situations consequent on the predicted by an arsenic-lung cancer theory. These consequences fall into two classes: (1) Predicted high lung cancer rates should appear in those persons whose work, or residence, is in arsenic-high situations. This list includes miners, smelters, smeltermen's wives and children, insecticide workers, agriculturists using arsenic sprays and processors and users of sprayed products—including cigarette smokers. (2) Lung cancer rates should be lower than one would expect among those whose work, or residence, is in arsenic-low situations no matter what the other pollutants. This list includes all the populations listed above, given that the mine, smelter, or insecticide is arsenic-free. It also includes cigarette smokers whose smoking is, and has been, confined to arsenic-free tobacco, such as is used in South Africa. -- APCA Absts.

- 856 A Review of 995 Cases of Primary Carcinoma of the Lung. R.W. Haber. Med. J. Australia 1, 551 (April 11, 1964).

Of 995 cases of carcinoma of the lung reviewed, the anaplastic type was present in nearly 50% and the squamous variety in 38%; 88% of all cases occurred in men. The peak incidence was in the 51 to 70 years age group. More cancers occurred in the right lung than in the left, and more occurred in the upper than in the lower lobes. The prognosis was worse in women and in the aged. It was better for lower lobe cancers in the right lung than for those

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