The abstracts which follow have been classified for the convenience of the reader under the following headings:

- Experimental Studies; Cancer in Animals
- Etiology
- General Clinical and Laboratory Observations
- Diagnosis and Treatment
- The Skin
- The Eye
- The Ear
- The Oral Cavity and Upper Respiratory Tract
- The Breast
- Intrathoracic Tumors
- The Digestive Tract
- The Pancreas
- The Biliary Tract
- Retroperitoneal Tumors
- The Spleen
- The Suprarenal Glands
- The Female Genital Tract
- The Genito-Urinary Tract
- The Nervous System
- The Bones and Joints
- The Leukemias; Hodgkin's Disease; Lymphadenoma
- Statistics
- Public Health

As with any such scheme of classification, overlapping has been unavoidable. Shall an article on "Cutaneous Melanoma, an Histological Study" be grouped with the articles on Histology or with the Skin Tumors? Shall Traumatic Cerebral Tumors go under Trauma or The Nervous System? The reader's choice is likely to depend upon his personal interests; an editor may be governed by no such considerations. The attempt has been made, therefore, to put such articles in the group where they would seem most likely to be sought by the greatest number. It is hoped that this aim has not been entirely missed.

If readers of this Journal wish to communicate with the writers of articles abstracted in its pages or to secure reprints, the editorial staff will be glad, so far as possible, to supply the addresses of these authors. Photostats of original articles will also be furnished, if desired, to be charged at cost.
EXPERIMENTAL STUDIES; CANCER IN ANIMALS


This is a report of the production of brain tumors in mice by the intracerebral implantation of pellets of 20-methylcholanthrene. Tumors were obtained in 13 of 20 mice. Eleven of these were gliomas of various types corresponding to characteristic subtypes of human glioma; 2 were meningeal fibrosarcomas. One of the gliomas and one fibrosarcoma were successfully transplanted and at the time of the report were in the 5th and 11th generation respectively.

Intracisternal injection of methylcholanthrene in lard solution in strain D mice, and as crystals in rats and in strain A and strain D mice, failed to produce tumors.

Thirteen plates are included, one of which is made up of photomicrographs of comparable tumors in man. References are appended.


The authors describe a continuation of their experiments with radium and mesothorium, which have been in progress now for seven years.

Most of the 107 rabbits employed during this period received a mixture of vaseline and 0.005 mg. of mesothorium in the thorax, femur, spleen, liver, stomach wall, or testis. Of 21 in which the agent was placed in the cavity of the femur, 14 developed metastasizing sarcomas; of 3 in the spleen series, 1; of 5 in the liver series, 1; of 8 in the stomach series, 2; of 7 in the testis and 9 in the pleura series, none. The time elapsing between introduction of the agent and spontaneous death of the animal ran from 21 to 50 months.

All three kinds of rays, alpha, beta, and gamma, are probably carcinogenic. Radioactive agents act principally on the connective tissues and only exceptionally on epithelium. Variation of the dose between 0.0001 and 0.005 mg. affected neither the number of resulting tumors nor the latent period.

With the increasing employment of radiotherapy a rise in the incidence of sarcoma as a late result of the treatment is to be anticipated.

Photographs of gross specimens and photomicrographs illustrate the article.

WM. H. Wogлом


The author reviews the evidence obtained by different workers on the rôle of the hormones in mammary carcinoma of the mouse. It appears to be established that carcinoma can occur only in a mammary gland which has undergone a certain degree of development and that such development is dependent upon the estrogenic and pituitary hormones, but whether these stimulating factors play a direct rôle in the cancerization process, or produce only the anatomical development essential for its manifestation is still undetermined.

A bibliography of eighty-nine references is appended. There are no illustrations.
An Attempt to Inhibit the Development of Tar-carcinoma in Mice. Fourth Report:
The Effects of Vitamins on the Tumour Threshold, J. A. Davidson. Canadian

When a high-vitamin diet was used tarring failed to produce cancer in susceptible
mice descended from a pair each of which had tar cancer.

A series of 6 cases is also recorded in which a high-vitamin diet supplemented with
extra vitamins resulted in improvement of the patient’s general condition and pro-
longation of life.

[For the author’s earlier reports on this subject see Absts. in Am. J. Cancer 26: 200,
1936; 35: 116, 1939.]

Effect of Water-soluble Vitamins on Induced Carcinoma, H. J. Lauber, H. Schocke,
and Th. Bersin. Experimentelle Untersuchungen zur Frage der Karzinombeein-
flussung durch wasserlösliche Vitamine, München. med. Wchnschr. 85: 1741–1744,
1938.

After a review of the literature the authors describe their own experiments on 240
mice with tumors produced by the application of methylcholanthrene. The vitamins
employed were administered parenterally every day, in some cases from the time when
painting was begun, in others from the first appearance of tumors. B₁ was given in the
form of Betaxin, 0.002 mg. and 0.00002 mg.; B₂ as Lactoflavin, 0.0005 mg. and 0.000005
mg.; and C as Cantans, 0.05 mg. and 0.0005 mg. To another group Sanostol, contain-
ing A, B-complex, C, and D, was fed.

No effect was noted, either upon tumor development or tumor growth, except that
where the health of the animals was particularly favorable, on account of the treatment,
the neoplasms grew more rapidly.

The article concludes with a bibliography. Wm. H. Woglom

Growth of the Brown-Pearce Carcinoma after Injection of Thorotrast, P. Brouwer.
Untersuchungen über das Geschwulstwachstum bei Kaninchen nach Vorbehandlung

Extensive blockade of the reticulo-endothelium with a total of 9 c.c. of thorotrast
administered at intervals in three equal doses did not increase susceptibility to the
Brown-Pearce carcinoma, whereas a single injection of 1 c.c. definitely did so. Natural
resistance could not be abrogated by amounts as large as 9–15 c.c. The paper closes
with a long bibliography. Wm. H. Woglom

Elementary Bodies in the Shope Rabbit Fibroma Virus, K. Herzberg and A.
TheLEN. Über den Nachweis und den Vermehrungsvorgang des Virus des

The elementary bodies demonstrated in the Shope rabbit “fibroma” by Paschen
(Zentralbl. f. Bakt., Abt. 1, 138: 1, 1936) with Loeffler’s mordant and carbol fuchsin
have been stained by the authors with Victoria blue. Giemsa’s method, on the contrary,
did not reveal them.

In the fibroblasts of this lesion, which is described as an inflammatory hyperplasia
containing fibroma-like nodules, the bodies stand out as blue cytoplasmic granules,
round, uniform in size, isolated or clumped, often double, and not quite so large as the
Paschen bodies of vaccinia. The nuclei do not contain them. Sometimes they appear
as indefinite granules in a highly characteristic light blue cloudy mass of unknown deriv-
ation which stains neither with Giemsa nor with mucicarmine, and which has never
before been encountered in a virus infection. The affected cells are not destroyed as
they are by some other viruses.

Certain fibroblasts enclose large numbers of these bodies, others only a few, and still
others none. An occasional epithelial cell from the skin or the scarified and infected
rabbit cornea may contain them, but they have not proved demonstrable with certainty
in the blood cells.
The value of these observations lies in the possibility of comparing the activities of a virus which induces cell proliferation with those others that lead to necrosis. The article is accompanied by photomicrographs and a bibliography.

Wm. H. Wogloc


Sera of cottontail rabbits bearing spontaneous or experimentally induced Shope papilloma were found to bind complement when mixed with virus-containing extracts of glycerolated papillomas from other cottontails, while the sera of normal controls exhibited no such capacity. The complement-binding capacity of the serum of an animal appeared to bear a relation to the total mass of papilloma tissue present for, in general, the sera of rabbits that had borne large growths over long periods fixed complement in higher titer than the sera of others with small growths of shorter duration. Sera from domestic rabbits with induced Shope papillomas were also found to possess the capacity to fix complement in the presence of antigens prepared from virus-induced papillomas, while sera from normal domestic rabbits and from domestic rabbits bearing tar-induced papillomas uniformly failed to do so.

To test the specificity of the reaction further, sera were employed from domestic rabbits immune to the fibroma virus as a result of previous infection with it, and from others immune both to the fibroma virus and to myxoma virus. None of the sera from 2 rabbits immune to the fibroma virus and from 7 rabbits immune to the fibroma and myxoma viruses fixed complement in the presence of a potent papilloma antigen. Similar results were obtained with the sera of rabbits immune to vaccinia and herpes and rabbits with experimental syphilis.

The specificity of the complement-fixation test thus appears to be comparable to that of the neutralization test involving the same virus (J. Exper. Med. 64: 63, 79, 1936. Absts. in Am. J. Cancer 30: 151, 1937).

The sera of cottontail rabbits fixed complement and neutralized the virus in much higher titer than the sera of domestic rabbits with comparable growths.

The relationship of the complement-binding and virus-neutralizing antibodies was studied in two experiments. The two were found to exist in the same relative proportions in the sera of rabbits bearing papillomas, though in a few instances sera which neutralized small amounts of the virus failed to bind complement to any noteworthy degree.

[For the nature of the complement-binding antigen see following abstract.]


Having found that the sera of rabbits bearing virus-induced papillomas will fix complement in the presence of antigens consisting of saline extracts of the growths (see preceding abstract), the author attempted to determine the nature of the complement-binding antigen and its relation to the papilloma virus. In a preliminary experiment it was found that the antigen did not exist in normal rabbit skin though it was obtained in large amount from the virus-induced papillomas of the same animals.

Filtration experiments indicated that the virus and the complement-binding antigen have the same particle size, for they were retained by the filters in almost precisely the same proportions. They were thrown down together in the centrifuge, were destroyed by the same degree of heating, 63–69° C., and in general by the same changes in pH, though at pH 9.8 the extracts lost completely or almost completely their infectious properties, while retaining undiminished their capacity to bind complement. Ultraviolet light destroyed the pathogenicity of papilloma extracts but did not diminish their ability to bind complement when mixed with immune serum. [See also following abstract.]

The Shope virus engenders papillomas when inoculated into domestic rabbits as well as cottontails, yet only rarely can it be recovered from these, and occasionally even the virus-induced growths of cottontails fail to yield it. Suspensions of these growths nevertheless elicit virus-neutralizing antibodies when inoculated intraperitoneally into rabbits of homologous species even though they cause no lesions when inoculated into the skin of susceptible animals (Shope: J. Exper. Med. 65: 219, 1937. Abst. in Am. J. Cancer 31: 506, 1937). In experiments here recorded it was found that extracts of growths which failed to yield virus also failed to fix complement. It was found, further, that the size and nature of the growth bore a relation to the yield of virus: small, discrete, naturally occurring papillomas of cottontail rabbits usually furnish virus of high titer; while the larger confluent growths produced with it experimentally in highly susceptible cottontails yield it in moderate or small amounts or not at all.

The serum of cottontail rabbits bearing large confluent papillomas, on the other hand, had a high capacity for neutralizing virus and binding complement, while the opposite was true of small slow-growing papillomas, even though these originated from the same inoculum. This would suggest that the sera of animals carrying the large growths develop marked ability to neutralize the virus; but further tests must be made to settle this point definitely.

Extracts of virus-induced papillomas in domestic rabbits showed only slight capacity to bind complement, being far inferior in this respect to the cottontail growths, which contained large amounts of virus; and the same was true of papillomas induced in snowshoe hares and a jack rabbit, extracts of which had also proved to be non-infectious. The question thus arises whether the complement-binding antigen exists in masked form in the non-infectious growths of domestic rabbits.

In experiments to determine this point suspensions of papilloma tissue were injected intraperitoneally into domestic rabbits. An antigen capable of eliciting complement-binding antibodies was found to be present in crude extracts of the “non-infectious” papilloma of domestic rabbits, though in much smaller amount than in extracts of growths containing the virus, but both crude extracts failed to bind complement in vitro experiments.

Discussing the findings recorded here and in the two papers abstracted above, the author concludes that the evidence as a whole favors the view that the virus stimulates the formation of the virus-neutralizing and complement-binding antibodies in vivo; and many facts indicate that it is closely associated, and in all probability identical, with the antigen that reacts with immune serum to fix complement in vitro.

References are appended.


This study is based on 17 spontaneous cases of leukemia and lymphosarcoma observed in mice of the highly inbred F strain and on 295 cases of leukemia developing in mice of this strain following leukemic cell inoculations by either the subcutaneous or intraperitoneal route. Of the spontaneous cases, 4 were of the myelogenous type.

The rather specific morphology of each line of leukemic cells during frequent transfer suggested that mice receiving transplants developed leukemia as the result of proliferation of introduced cells. There was no positive evidence that reticulo-endothelial or other mesenchymal cells played a role in the histogenesis of transplanted leukemia. The leukemic cells appeared to be neoplastic. When they were introduced subcutaneously into normal mice, local tumors were formed; subsequently systemic leukemia usually appeared. When the cells were introduced intraperitoneally, systemic disease resulted, with or without tumor formation in the peritoneal cavity.

Leukemic cell types showed a wide degree of cytological variation, there being no specific cytomorphological criteria for malignancy. The “immature” cells of human
leukemia are morphologically similar in many instances to the "leukemic" cells of the tissues and blood in certain lines of mouse leukemia. Young cells of normal hemopoietic organs of the mouse also have certain cytological characteristics in common with leukemic cells.

Photomicrographs and a bibliography are included.


Painting with methylcholanthrene was found to reduce by more than half the latent period of lymphomatosis in dilute brown mice, in which it commonly occurs between 650 and 800 days, but no such effect was obtained by benzene alone. Other types of leukemia developing after the application of methylcholanthrene were localized mediastinal lymphoma, non-malignant medullary myelopoiesis, and a single instance of reticulo-endotheliosis.


Little and Reimann discuss the role of the cytoplasm in inheritance, citing examples from animal and plant life to show that the chromosomes are not alone responsible for the transmission of inherited characteristics. From this they pass to the origin of tumors, the theory of somatic mutation, and what Dr. Reimann designates as the organization problem, i.e., "just why organisms organize the way they do into replicas of their parents." To his request that Dr. Little indicate in a general way the direction in which this biological problem should be attacked, the latter responded by advocating first the general adoption, by all active in experimental pathology and other branches of experimental medicine, of the principle of using known genetic stocks of animals as these will be homogeneous and predictable to the highest degree possible in mammalian material. He would then vary under experimental conditions the factors of internal environment, such as sex, age, amount of internal secretion, nutrition, various degrees of exposure to stimuli, etc., and finally, keeping these latter factors constant, he would begin to vary the genetic type of animal used. "One could thus gain a much more accurate picture of the relative importance of genetic and other agents in the etiology of all growth phenomena including cancer."


Two types of interaction between a given hydrocarbon and a given sterol are observed. In one each hydrocarbon molecule appears to be held in the mixed surface film between two sterol molecules so oriented that the methyl-free faces of the sterol molecules are in contact with the opposite faces of the hydrocarbon ring system. In the other, which is particularly marked with those hydrocarbons having aliphatic side chains attached to the polycyclic ring systems, each hydrocarbon molecule appears to be held in two-dimensional solution in the sterol surface film.

Hydrocarbon molecules may be transported from the site of administration to the site of action by means of either interaction, with the second playing perhaps the most important role in this respect and thus giving polycyclic hydrocarbons with alkyl side chains a high transportability.


An eight-year-old Holstein cow had enlarged lymph nodes in the prescapular and precrural areas. The blood showed only an anemia. Autopsy revealed widespread lymph node enlargement with metastatic lesions in the heart, intestines, uterus, and skeletal muscles. Microscopically the enlarged lymph nodes and secondary growths were identical. Silver impregnation revealed a uniform fine network of argyrophil fibers virtually in direct contact with every tumor cell. Small areas of erythropoiesis
were present but these did not appear to be an essential part of the tumor process. Tumors of this type are believed to originate in the reticulum cells of the lymph nodes, and tumors originating from them constitute a specific group that must be separated from lymphocytoma, pseudoleukemia, and lymphatic lymphosarcoma.

Though there are no other recorded instances of reticulum-cell sarcoma in food-producing animals, the author believes that the condition is not unusual and that it has frequently been reported under such diagnoses as leukemia, pseudoleukemia, lymphosarcoma, and lymphocytoma.

Photographs of gross specimens and photomicrographs are included and a bibliography is furnished.

**ETIOLOGY**


The author reviews the theories of the cause of cancer and the clinical and experimental investigations bearing on this point. He concludes that the cancerous process is practically always the same and consists essentially of an "uncontrolled multiplication" of cells. The cause of this "uncontrolled multiplication" lies in the occurrence of some subtle, permanent change in the cell itself.


It is well known that the component amino-acids of the proteins, while showing different optical rotations, have the same steric configurations. In a few instances amino-acids with what the authors term an "unnatural" configuration have been isolated from living tissue, but they have not been found as constituents of the proteins.

The authors extracted the proteins from various specimens of tissue which included the Brown-Pearce tumor, the Ehrlich mouse carcinoma, an ovarian tumor, two breast tumors, and fetal and adult normal control tissue. The ground-up tissue was mixed with six times its bulk of 0.6 sodium chloride solution and a little toluol, thoroughly shaken, and kept for a day at a temperature of 0°C. The solution was then either centrifuged or filtered and precipitated with four volumes of alcohol, and after drying was hydrolyzed for seven hours with three times the weight of the material in a hydrochloric acid of a specific gravity of 1.19. The hydrolysate was extracted in a vacuum with butanol for thirty-six to fifty hours and after that for four or five hours with propanol. Various amino-acids were then isolated by standard methods, and the rotatory power of the solution of pure acid was determined. Serine, prolin, cystein and alanin are said to undergo changes in rotatory power under the influence of acid hydrolysis, and hence were not regarded as of importance in the study.

The results of the determination of the rotatory power of the isolated acids showed a considerable proportion, especially of glutamic acid, to be of the d-form rather than the normally occurring l-type of amino-acid.

The writers enter into a long theoretical discussion of the importance of this alleged discovery and draw conclusions which are certainly unjustified from the facts so far observed. It would have been well to have entitled the article "Studies on Amino-Acids of the Proteins of Malignant and Normal Tissues," and not to have called it "The Etiology of Malignant Tumors." Even if it should be shown by confirmatory work that amino-acids of the d-form exist in all tumors, and not in normal tissues, the work so far does not offer any proof that this change in structure is not an effect of some somatic mutation of the cell, rather than a causative agent.


In a semi-popular lecture the author repeats a good deal of the material published in the paper abstracted above, and gives a fresh series of observations on new material. His tables show that not all of the amino-acids have undergone structural change, but that this racemization affects chiefly glutamic acid, of which, according to Kögl's
figures, nearly 50 per cent may be in the d-form. He weakens his argument somewhat, however, by stating that three myomata of the uterus show a small percentage of the altered types. Myomata of the uterus, though generally classified with tumors, differ from the usual neoplasm in being dependent upon ovarian secretion, for if the ovaries are removed or destroyed, the myomata disappear. The rest of the paper is occupied with theoretical speculations of no special interest.


The authors made studies on preparations of glutamic acid from a Crocker mouse sarcoma 180, a lung carcinoma, and another carcinoma of the lung extending into the neck, but were unable to find any evidence from the polarization measurements that the glutamic acid was anything but the usual l (+) glutamic acid with a normal rotation of alpha (d) + 31.6. They point out, as Kögl also did, that it is impossible to get tissues entirely composed of malignant cells, but in one instance glutamic acid from a minced tumor extracted by glutamic acid derived from the 0.6 per cent sodium chloride gave the same rotation as the glutamic acid derived from the residue insoluble in 0.6 per cent sodium chloride. [See preceding abstracts.]


Brief superficial review.

GENERAL CLINICAL AND LABORATORY OBSERVATIONS


This study of the familial incidence of cancer is based on two sets of data—one obtained from the mortality records for 1841-1932 of ten Massachusetts towns with a combined population in 1930 of 21,979, the other gathered by questioning 499 patients with cancer of the cervix or breast. The data from the mortality records were tabulated in such a way as to determine the chance of dying of any given disease in a population of a given age group, all members of which died in a given time interval. Tabulations were then made showing the chance of dying of cancer or other diseases for all the known ancestors of persons who had died of cancer. Similar tables were constructed for the ancestors of those dying of other causes. The summation of these tables furnished an expected number of deaths from various causes to be compared with the actual number among ancestors of persons with and without cancer. With this method, which allows for both the time element and the age factor, the cancer rate was found to be slightly more than 1 per cent higher among the ancestors of persons dying of cancer than would normally be expected.

From the same data, with the addition of one more community, a computation was made of the percentage of children with cancer in families in which one or both parents had the disease. Here again a familial tendency was evident, the cancer rate being higher among the children of cancer parents. The results obtained by interviewing patients with mammary and uterine cancer, while not significant, pointed in the same general direction.


In a family encountered by the authors 6 of 9 siblings in a single generation had one or more soft subcutaneous tumors diagnosed as lipoma, by biopsy in one instance and clinically in the others. The only members of this group who were free from tumors were two who died in infancy and one who at the time of the survey was not well within the age at which tumors developed in most of the siblings. There was no previous history of lipomas in the family and no evidence of the disease had appeared in the next generation, all of whom, however, were under forty, the approximate age at which the tumors appeared.
ABSTRACTS


The authors review the literature and include records of 22 patients with various types of xanthomatous lesions. The tendon sheath xanthomas are illustrated by several cases, but nothing new is added to our knowledge of the condition. Examples of xanthomatous nodules in the skin, of the Hand-Schüller-Christian syndrome, and of xanthomatous biliary cirrhosis are given, and the paper concludes with a classification in which the primary essential disease is separated from the secondary type due to lipemia.

The localized xanthomas are of especial interest to the student of cancer because of the possibility of confusion in diagnosis. This paper with its many illustrations and long list of references provides a good review of the whole subject.


The author closes this long general review with the statement that malignant tumors offer no exception to the rule that growing tissues obtain the requisite energy from oxidative processes. Other reactions may be utilized, it is true, and under certain circumstances may overshadow oxidation—physiologically where the circulation is inadequate as in the embryo, pathologically when tissues are damaged as in the case of tumors or granulomas. But these always represent emergency measures, employed because normal respiration is impossible. The article closes with an extensive bibliography.


A woman who received injections of radium chloride into the knee-joint for arthritis, totalling 10 micrograms, developed, eight or nine years later, a tibial fibrosarcoma. She was shown to be radioactive and to have, also, hyperplasia of the bone marrow and radiation osteitis, indicating radium poisoning. The femur was amputated. Roentgenograms, photomicrographs, and references are included.

DIAGNOSIS AND TREATMENT
INCLUDING EXPERIMENTAL STUDIES ON RADIATION


Frozen-section diagnoses made in 45 cases in which malignant growth was suspected were compared with the diagnoses made on the same cases after deliberate study of carefully prepared paraffin sections stained with hematoxylin and eosin and permanently mounted. In 5 cases, or 11 per cent, the diagnosis made on the frozen section was changed after studying the permanent section: twice from non-malignant to malignant, twice from non-malignant to borderline, and once from borderline to malignant. In four of these cases, namely those with an original diagnosis of non-malignant, the change was such as to affect seriously the treatment and prognosis.

The author discusses the defects of the frozen-section method of diagnosis and concludes that in general the surgeon is no more certain in basing his procedure on a pathological report made on the basis of this method than on his own gross examination. Photomicrographs and references are included.


This paper deals with neurosurgical procedures for the treatment of otherwise uncontrollable pain in cancer. These include, in order of the frequency of their ap-
plication, (1) peripheral injection of branches of the trigeminal or fifth cranial nerve with alcohol; (2) intraspinal subarachnoid alcohol injection; (3) chordotomy; (4) spinal posterior-root section—rhizotomy; (5) intracranial cranial-nerve section—trigeminal and glossopharyngeal nerves; (6) peripheral-nerve section—superficial cervical, inferior dental, and lingual nerves. Other procedures less often used are alcohol injection of the gasserian ganglion, myelotomy and presacral nerve section. The general principles underlying these measures and the indications for their employment are set forth. Because of the personal equation, the exact percentage of success is difficult to determine, but the author believes that satisfactory relief can be obtained in about 60 per cent of cases. No references are included.


The amount of blood loss was determined in various standard operations for malignant growth and the minimum, maximum, and average losses are presented graphically. High blood pressure and obesity were found to contribute to increased blood loss. In general, however, it is probable that the amount of blood lost serves as a measure of the care and skill with which the operator has carried out his operation, and of the effectiveness of the precautions he has exercised against the development of operative shock.


In a quantitative comparison of the effectiveness of 200 kv. x-rays and gamma rays on mouse sarcoma 180, it was found that the nature of the effect is essentially the same with the two types of irradiation. An "equivalent roentgen" value for gamma rays of 96 to 114 r/min./gm. was obtained for the standard conditions of 1 cm. distance from an effective point source of gamma radiation, with a filtration of 0.5 mm. platinum.

THE SKIN


Four methods of treatment of vascular nevi are discussed and their comparative results recorded: injection of sclerotic solutions, radium therapy, surgical excision, and refrigeration with solid carbon dioxide. Sclerosing agents included sodium salicylate, sodium morrhuate, and a quinine and ethyl carbamate (urethane) solution, the last named giving the best results. Radium therapy was given either by external application or interstitially.

While excellent results were obtained with radium, the author believes that sclerosing solutions are equally effective. He obtained a perfect result in 70 per cent of 52 cases thus treated, while in 10 per cent only a small remnant of the angioma was present at the cessation of treatment, and this was not sufficient to be objectionable. He concludes that treatment with radium should be limited to angiomas which are particularly radiosensitive and should not be used near the eye or on extensive lesions over bony prominences. Gamma radiation obtained by filtration through 2 mm. of brass or its equivalent gives better results than softer radiation. Except for superficial lesions, a distance of 1 cm. or more between the radium applicator and the skin is desirable. Injection with a solution of quinine and ethyl carbamate is the best treatment for hemangiomas about the eyes and on the lips and for extensive lesions on the sides of the face or on the hands and the wrists. It is usually the best, also, for relatively radioresistant hemangiomas whatever their location may be, and for lymphangioma circumscriptum.

Illustrations are included to show the results of each of these two types of therapy.


Seven cases of angioma containing areas of calcification or phleboliths are recorded, all in Chinese patients. These calcified areas give a characteristic roentgen appearance,
presenting a radiopaque nucleus around which are concentric rings of opacity and translucency. In 2 of the cases reported here the diagnosis was verified by operation, pathological study, and x-ray examination; that of 3 others rested on x-ray findings mainly, and the last 2 were diagnosed by operation and pathological section. Six cases occurred in males and the remaining one in a female. The ages of the patients ranged from eighteen to thirty-seven years. Four cases occurred in the neck, one in the palm, one in the finger, and one in the knee.

Photographs and roentgenograms are included and a bibliography is appended.


Cylindroma has usually been described as a multiple tumor occurring on the scalp, the so-called turban tumor (see, for example, Ronchese: Am. J. Cancer 18: 875, 1933). The author believes, however, that the lesion is more commonly single. In only one of four cases seen by him, and recorded here, were there multiple growths. In none of these cases was there microscopic evidence of malignancy and he believes that the disease is invariably benign. Regional lymph node involvement has never been recorded. In the three cases with single tumors cure was effected by excision followed by cauterization or interstitial irradiation of the base. The case of multiple tumors was interesting for the family history. Both the patient’s sister and mother gave a history of multiple tumors of the scalp. Three photomicrographs are reproduced, and references are included.


A case is recorded of a peculiar scalp tumor in a forty-seven-year-old Negro who died, six weeks after hospital admission, of pneumonia and cachexia. The tumor had begun as a few discrete nodules; later it became diffusely invasive, involving the entire scalp and metastasizing to the ribs and kidneys. The tumor cells were large and undifferentiated and had a large oval or round nucleus, which was rich in chromatin, and frequently a nucleolus. The cytoplasm was pale. Special staining with the Van Gieson stain and stains for reticulum (Foot and Foot) revealed an intertwining network of short cytoplasmic processes. Because the cells were so young and so undifferentiated the author has applied the term mesenchymoma to the tumor. No photomicrograph is included. References are appended.


The author believes that the cutaneous xanthomas may be separated from the general group of xanthomas to constitute a separate category. The stroma of these tumors suggests a neurogenic type of neoplasm and their cells show a resemblance both to those of the sheath of Schwann and to those of some melanomas. The presence in the stroma of readily demonstrable bundles of non-myelinated nerve fibers further heightens the similarity to melanomas. Transitions between the two types of neoplasm may be found in selected cases. Five photomicrographs are included.


A pigmented mass developed in a child at the site of injury with an indelible pencil. Pathologists disagreed as to the nature of the lesion, the diagnoses including malignant melanoma, benign melanoma, and melanin pigmentation secondary to an old inflammatory lesion. There was no evidence of recurrence three and a half years after excision of the mass [which suggests at least that the lesion was benign]. Two photomicrographs are reproduced.

This report of Kaposi sarcoma in a Negro comes from Uganda, British East Africa. The histologic picture is described but no photomicrographs are reproduced. In one area the spindle-shaped cells which replaced the normal corium were found to be directly continuous with the endothelial lining of an arteriole, from which they appeared to be derived. The capillaries were increased in number, ectatic, and filled with red cells. In places there were nests of obviously newly formed capillaries and even solid lines of endothelial cells resembling the capillaries of the embryo before canalization. This picture the author regards as supporting the quite generally held opinion that the disease is a form of new growth derived from vascular endothelium. References are included.


A general discussion, with illustrations of gross lesions.


A case is recorded of a pigmented neoplasm of the right eye apparently arising from the stroma of the iris. The patient, a man of twenty-four, stated that a tiny pigmented spot had appeared on the iris seven years previously. At the time of examination the involved portion extended from a point just beyond 9 o'clock at the pupillary margin below to within 2 mm. of the corneo-scleral margin above, and upwards from a point representing 11.30 o'clock at the pupillary margin to the limitations of the root of the iris above. The area was thickened or raised, but only to a moderate degree, and not sufficiently to diminish appreciably the depth of the anterior chamber. All the ocular tissues other than the iris were normal. The patient had no pain and vision was not disturbed. The portion of the iris containing the tumor was successfully excised and there was no subsequent impairment of function. The histologic findings are presented in detail.

The author is particularly interested in the genesis of the hyperplasia of pigment-producing cells, their origin, character, and the role they play in the formation of what some regard as a simple hyperplasia of pigment cells or others as a true tumor. In summing up his observations he says:

"In the stroma there are two types of pigment-carrying cells concerning whose derivation there is still some confusion and doubt. It is said that they are of mesodermal origin. One of these apparently is a true chromatophore, being 'dopa' negative, mesoblastic, and identical morphologically with the chromatophores of the skin. The other is 'dopa' positive and it is therefore looked upon by many as a mesoblastic melanoblast. From our sections we would say rather that they are ectodermal melanoblasts as one can see them growing in from the posterior epithelial layer. Our sections would further tend to endorse the view that the physiological behaviour of these cells as noted in an embryonic state or in the process of true tumor formation is a repetition of the cellular behaviour during an embryonic state. It is certain that tumors, both functionally and morphologically, are little more in some respects than a recapitulation of a more primitive or embryonic state. Von Hansemann has referred to such cell behaviour as kataplasia. This all tends to support the opinion that melanoblasts in the stroma of the iris are at least sometimes epidermal in origin. Thus the melanoma of the iris can be brought into line with Masson's theory of a nervous derivation of the skin nevi, as the ectoderm of the interior of the eye is derived from the fore-brain (diencephalon)."

Photomicrographs and references are included.
ABSTRACTS


A case of angioma of the retina apparently unassociated with any lesion elsewhere. References are appended.

THE EAR


A Chinese male aged forty-seven complained of pain and discharge from the right ear of three to four months’ duration. In the month preceding admission the ear had twice been operated on through the external auditory canal but without relief. Facial paralysis of a week’s duration was present. On examination a mass was found tightly lodged in the canal beyond the isthmus of the external auditory meatus. Biopsy showed it to be a squamous-cell carcinoma.

A right radical mastoidectomy was performed and as much of the tumor as possible was removed piecemeal. Three days later seven 1.5 mg. lead-filtered radium needles were inserted into the tympanic cavity, three of them through the mastoid wound and four through the external auditory meatus, and were allowed to remain for a dose of 1472 mg. hrs. Sixty-four days after this another 1000 mg. hrs. was given through the external auditory canal. Symptoms were relieved but a noticeable degree of facial paralysis persisted. The patient had been followed only a short time.

References are appended.

THE ORAL CAVITY AND UPPER RESPIRATORY TRACT


A general discussion of intra-oral carcinoma illustrated by photographs of patients before or after treatment. The five-year cures for selected groups at the Memorial Hospital, New York, are given as follows: cancer of the lip, 70 per cent; tongue, 26 per cent; cheek, 30 per cent; nasopharynx, 22 per cent.


A series of 19 cases variously treated is recorded. Nine patients had cancer of the larynx. Four of these were operated upon and 3 were alive and well after three, nine, and ten years. Four patients received roentgen therapy by the Coutard technic and of these also 3 were alive, without recurrence, after a year, two years and six months, and two years and eight months. One patient was treated by radon but died of heart disease.

Five patients had malignant pharyngeal growths. Four, all with metastases, were treated by roentgen irradiation according to Coutard’s method. Of these, only one is living, a year after treatment, with recurrence. One patient without metastases was treated by radon implant and was well twelve years later.

Five patients had malignant nasal growths. One was operated on and has remained well for six years. One received a combination of radon and x-ray therapy and is living after two years and six months, but recurrence is probable in this case. Two were treated by roentgen therapy, both of whom are living and well after two years and three months, and four years and seven months. One was treated by radium and is alive and well after two years and five months.


The authors treated a series of 14 cases of carcinoma of the buccopharyngeal cavity, mostly far advanced, by roentgen therapy according to a periodic chronology. An initial series of treatments [“daily or diurnal,” the authors say, meaning presumably...
daily or on alternate days] over four to six days was followed in twelve or fourteen days
by a second series given over three days, and by a third series after a similar interval.
Sometimes a fourth series was added on the thirty-eighth to forty-second day. The
total dosage was 5000 to 8900 r measured in air and two portals were generally employed.
According to the table accompanying the paper, 9 patients are dead [the text gives the
number as 8], 4 are without clinical evidence of disease from ten months to two years
after treatment, and one is alive with metastases.

The authors found that the periodic method reduced the systemic reaction and that
the rest periods were of distinct psychologic benefit, but they draw no conclusions as to
the relative value of the method.

**Superficial Intra-Oral Use of Roentgen Rays.** A Report of the Use of the Chaoul Tube,

The authors describe the application of the Chaoul contact therapy method to
intraoral tumors. They give 540 to 550 r per field daily, treating as many fields as are
necessary to cover the lesion. The usual course consists of twenty daily treatments.
The results are given for small series of cases of carcinoma of the tongue, buccal mucosa,
pharynx, hard and soft palates, and alveolar ridge, of intra-oral sarcoma, and of extra-
oral cancer, but in no instance is the interval following treatment stated. Nor is the
treatment of lymph node metastases discussed, but this, the authors state in the ensuing
discussion (pp. 285–288), is because the paper is merely a preliminary one. Illustrations
are included.

**Management of Metastatic Carcinomatous Glands in the Neck,** W. H. Guy and F. M.

The authors record their results in a selected series of cases of epidermoid carcinoma
of the lip and oral cavity. A good percentage of the cases could be classed as early, and
in only a few was the involvement on the borderline of the practically hopeless.

In cases of involvement of the lip removal of a biopsy specimen was immediately
followed by complete electrodesiccation and roentgen irradiation. In cases of intra-
oral involvement non-removable platinum radium emanation seeds, each yielding from
1 to 1.5 millicuries, were embedded in each estimated cubic centimeter of tumor tissue,
care being taken to encircle the lesions in apparently normal tissue as well. In all cases
a double erythema dose of filtered radiation was applied to the node-bearing area, and
either this procedure was repeated in six weeks or 40 per cent of the original dose was
applied twice at three-week intervals. This produced in all cases a marked erythema,
and in some cases the reaction was just short of epidermitis.

Of 13 patients with involvement of the upper lip, 12 are alive; the one patient with
palpable nodes died eight months after treatment. Of 26 patients in whom the growth
was on the lower lip, 23 are alive, one of whom appears to have had palpable nodes
when treatment was begun. Patients with intra-oral carcinoma numbered 19, of whom
14 are alive and well. These do not, however, represent five-year cures, the period of
observation varying from one and a half to six years.

The remainder of this paper is devoted to statistics recorded by others. The authors
conclude that the treatment of definite node metastases is usually futile. It is impossible
to state at this time what is the procedure of choice. Apparently a combination of
irradiation and conservative surgical treatment offers the best prospects in a selected
group of cases. References are included.

**Adamantinoma.** A Clinical Study of Twenty-Six Cases, H. T. Kimm and A. F. Baran-

Among 350 tumors of the jaw seen in the Peiping Union Medical College since 1921,
there were 26 adamantinomas, of which 22 involved the mandible and 4 the maxilla.
The patients ranged in age from eight to fifty-seven years. Males predominated, but
this is probably to be explained by the larger number of males seeking hospital admis-
sion. All but one of the tumors were of the multilocular cystic type. In no case was
there evidence of metastasis, but in 5 instances the tumor was recurrent following in-
complete operation elsewhere. In one case sarcomatous change was found and in another there was evidence of cellular activity.

Treatment was given in 22 cases. The authors regard radical excision as the procedure of choice. In 2 of their series resection of more than one-half of the jaw was carried out. One of these patients is well six years after operation; the other is a recent case. There were 13 hemisections of the jaw. Operative death, due to shock, occurred in 2 of these cases, and salivary fistula followed operation in 1 instance, but was repaired satisfactorily. Resection of a segment of the jaw was done 3 times. Curetage alone and curettage with cautery of the tumor were carried out in one case each. One of the maxillary tumors was treated by local excision. Dental prostheses were used whenever possible, to correct the postoperative deformity. No recurrences had been observed at the time of the report, but in only 3 cases did the observation period exceed five years.

One patient was treated by irradiation alone and in 12 cases radiotherapy was used before or after operation. The results of roentgen therapy are reserved for future publication. For the pathological aspects see the following abstract.

Photographs of patients are included and there is a bibliography of 47 references.

**Adamantinoma in Chinese. A Pathological Study of Forty-One Cases, K. Y. Ch'in.**


This paper is based on a study of 41 cases of adamantinoma in Chinese patients, presumably including the cases reported by Kimm and Baranoff (see preceding abstract). The onset in 9 cases was preceded by a history of toothache; in 6 cases by tooth extraction; in 4 cases by pyorrhea alveolaris of the involved part of the jaw; in 2 cases by trauma. Two cases were associated with an impacted third molar, and one with chronic osteomyelitis of the jaw. The lower jaw was the site of the tumor in 32 cases and the upper jaw in 6; in 3 the site was not specified. This predilection for the lower jaw is in accord with the observations of others. Eighteen of the tumors were multilocular cystic growths containing thin mucoid fluid or some necrotic tissue in the cavities; 6 were solid with a grossly sarcomatous or fibromatous appearance, 1 being papillomatous and spongy; 3 were monolocular cysts and were diagnosed clinically as either dentigerous or radicular cyst; and 2 were mainly solid tumors containing a few small cysts. In the remaining 12 cases no adequate information was obtained as to the cystic or solid nature.

The histologic structure of the tumors is variable. The conventional picture of central loose stellate cells surrounded by a palisade of columnar cells at the periphery is not a constant or essential feature of adamantinoma. The presence or absence of the two types of cells depends entirely on the state of differentiation. Both types may be absent; the differentiation may proceed toward one type more than toward the other; or one type may be entirely missing. Squamous change with or without pearl formation was found in 18 of the series. Two cases of so-called glandular adamantinoma were observed, characterized by the presence of large spindle-cell nodules, glandular follicles lined by tall columnar cells, and discrete colloid bodies scattered among the epithelial cells and in the follicles.

The author was unable to find any constant differences in histologic structure which could be looked upon as criteria of malignant change. Dental structures, as enamel, dentine and formed teeth, were found in none of the cases.

Twelve of the tumors were locally invasive; 5 were recurrent. In 3 cases enlarged nodes were examined but in none were metastases found. In one case a metastatic nodule was present on a rib.

The histogenesis of adamantinomas and their differential diagnosis are discussed. The author accepts Malassez's theory of an origin from paradental epithelial débris as best explaining the tumors in his series, with a single exception.

A section on extramaxillary adamantinomas is added, based on the literature. Four pages of bibliography and twenty-four photomicrographs complete the paper.

Three examples of tumor of the hard palate and one of a parotid gland tumor are recorded, resembling one another clinically but differing histologically. One of the palatal tumors is described as an atypical mixed tumor of salivary gland type; one was a mucous cyst and one an epithelial-lined cyst. The parotid growth was a mixed tumor with areas of carcinomatous change. Four photomicrographs and a few references are included.


Attention is called to the great frequency in the Chinese of malignant tumors of the nasopharyngeal opening of the Eustachian tube and of the Eustachian tube proper, 16 cases having been seen during six years of private practice in Shanghai, while numerous cases appeared for examination and treatment in the Peiping Union Medical College. All the author’s cases were in Chinese, though only about 40 per cent of his patients are of that nationality.

The condition may be first manifested by a severe hemorrhage. Another early symptom is deafness. Examination of the ear will usually show a retracted ear-drum with a darkened middle ear. Occasionally, fluid may be found in the middle ear. Metastasis to the cervical nodes is of late occurrence. Examination of the nasopharynx with a long nasopharyngeal speculum and a post-nasal mirror will show the location of the tumor. Biopsy is indicated where possible.

Results of therapy are not recorded beyond the statement that they are generally poor. Two of the author’s patients under treatment at the time of the report were responding well to radium and roentgen irradiation.


This is a brief discussion of the so-called Schmincke tumors, arising in lympho-epithelial tissue in the tonsil, at the base of the tongue, and in the nasopharynx. Treatment is by irradiation with subsequent removal of the residue of the growth by electrocoagulation. Three cases are briefly presented but no late results are reported. Two photomicrographs are reproduced and references are appended.


The author sets forth the advantages of electrosurgery in cancer of the nasal sinuses. Combined with radium and x-ray therapy this often makes possible five- to ten-year cures in cases incurable by either method alone. Even in incurable disease palliation is obtained except in the very latest stages. No statistics are given and there are no illustrations.


In a series of 250 mammary gland tumors 109 were benign and 141 malignant. The benign group included 92 fibro-adenomata, 11 cystadenomata, 3 papillomata, and 3 lipomata. Of the malignant growths, 117 were classified as adenocarcinomata, 18 as scirrhous carcinomata, 4 as squamous-cell carcinomata, and 2 as papillary cystadenocarcinomata. In this group 130 radical mastectomies were done and axillary metastases were proved histologically in 72 cases. In all the cases in which a radical operation was not done there was clinical evidence of axillary metastases. In only 2 cases was there a certainty that carcinoma arose in an originally benign lesion. The author discusses the dissemination of mammary cancer and reports one example of diffuse lymphatic permeation.

Treatment is not discussed. There are no illustrations. Four references are appended.

A general discussion of breast tumors with a report of three small series of carcinoma representing three groups: (1) without palpable metastases; (2) with axillary metastases; (3) with metastases not only to the axilla but to the supraclavicular or mediastinal nodes or elsewhere. Five-year results are not given.


The author correctly favors radical mastectomy for operable breast carcinomas no matter how small the growth is. He believes that the patient should have the benefit of preoperative as well as postoperative irradiation.


A general discussion leading to the conclusion that every surgeon is “duty-bound to associate radiotherapy with his surgical attack” on carcinoma of the breast.


The tumor first described by Johannes Müller as cystosarcoma phyllodes mammae is described in all the standard text-books on mammary tumors but according to the authors has received little attention in France. Lee and Pack (Am. J. Cancer 15: 2583, 1931) collected 111 cases from the literature. Five new examples, from the Salpêtrière, are recorded here. These were observed in a period of seventeen years, 1919–1936, during which there were seen 502 carcinomas of the breast, 6 sarcomas, and 198 benign adenomas. The incidence is thus less than 1 per cent of all malignant mammary tumors.

As a rule, cystosarcoma phyllodes develops from a pre-existing intracanalicular fibro-adenoma. It occurs chiefly in the female and usually between the ages of thirty and sixty.

The tumor often attains a considerable size and its macroscopic appearance is quite characteristic. The growth is lobulated and when cut across shows numerous nodules of various sizes separated by soft, firm or myxomatous connective-tissue stroma. The nodules have a tendency to separate spontaneously and are easily enucleated from the tumor.

Microscopic sections show a picture resembling intracanalicular fibro-adenoma. The stroma is divided into large islands, by strands of epithelial-lined clefts, adjacent to which marked proliferation of connective-tissue cells is evident. Fibroblasts may be arranged in whorls and the nuclei may be indistinguishable from those of sarcoma cells. In other places the stroma may show evidence of sclerosis, edema, and myxomatous transformation. Mitoses are frequent in the rapidly growing forms.

It has always been a difficult matter to classify this tumor. Although it resembles a sarcoma it is a truly benign neoplasm and the authors chose to call it fibro-adenomyxoma phyllodes.

Operating removal is the treatment of choice. If the tumor is very large a simple mastectomy is indicated. Otherwise local excision suffices. Rarely local recurrence takes place but surgical removal effects a cure. WM. Mendelsohn


A Hindu male fifty years old was seen by the author with a huge cauliflower-like growth of the right breast without palpable axillary or cervical nodes. The tumor was recurrent after local excision on three previous occasions within the past two years. The patient’s condition was such as to preclude operation but biopsy showed carcinoma. Death occurred six months after admission.

After a general discussion of pulmonary carcinoma based on the literature, the author records 2 cases, both of which came to autopsy. In the first the diagnosis was carcinoma of mixed type, with a note that it may have been a metastasis of the epithelial elements of a testicular teratoma since the patient had had an enlarged testicle removed six months earlier. In the second case metastases were present in the mediastinum, brain, kidneys, suprarenals, and diaphragm. References are appended.


The clinical diagnosis of bronchial cancer is discussed, particularly from the point of view of roentgenography. In the early intrabronchial stage the tumor is not directly visible in the roentgen film, but may be revealed by certain signs of bronchial stenosis, as atelectasis and abnormalities in the excursions of the diaphragm, or by the presence of mediastinal metastases. The majority of cases are first observed in a more advanced stage, when characteristic radiologic signs of tumor extension to the pulmonary parenchyma are visible. Illustrative cases are described and 11 roentgenograms are reproduced.


The authors have tabulated 27 recorded cases of the syndrome described by Pancoast (J.A.M.A. 99: 1391, 1932. Abst. in Am. J. Cancer 19: 168, 1933) as characteristic of pulmonary sulcus tumors. They mention also a report of a case by Hare as early as 1838, describing a similar syndrome due to a tumor at the base of neck, and point out that any tumor involving the brachial plexus will produce these signs, namely pain in the chest or arm or both, cervical sympathetic paralysis manifested by Horner's syndrome, and weakness or atrophy of the muscles of the extremity affected.

Two cases are recorded. In one a pulmonary carcinoma was found at autopsy; in the other a large solid mass extended from the left axilla to the crest of the ilium. Biopsy of an axillary lymph node showed adenocarcinoma. Photomicrographs, roentgenograms, and pictures of the patients are included. References are appended.


This is a report of a case of lung cancer of eight years' duration in a woman of twenty-eight years. The pulmonary symptoms were minimal. Multiple nodules in both lungs observed radiographically and believed to be of metastatic nature appeared to regress completely following puerperal sepsis six years prior to death. The patient died following operative intervention for a cerebral neoplasm. Autopsy disclosed an alveolar cancer of the lung localized to the left lower lobe, with metastases in the left temporal and parietal regions of the brain. Roentgenograms are reproduced.


About 30 examples of bronchogenic carcinoma with subcutaneous metastases have been found in the literature. A further case is recorded with secondary deposits beneath the skin of the chest wall and the thigh. Photomicrographs and references are included.
Gynecomastia in Lung Tumor Associated with Pulmonary Tuberculosis, A. Altschul.

A report of a case as described in the title, in a man of fifty-three years. The lung tumor was a squamous-cell carcinoma apparently primary. Roentgenograms are included, and a photograph of the patient showing the enlargement of the breasts in spite of general emaciation. References are appended.


This is a single case report. A lymph node metastasis of a chondrosarcoma was excised from the supraclavicular region in a woman of forty-three years. Several months later a roentgenogram of the chest disclosed diffuse, well defined, nodular metastases in the lungs. The pulmonary nodules showed a slightly lobulated border and deposition of lime salts. A primary tumor in the hilus region is postulated. Two roentgenograms of the chest and 2 photomicrographs of the supraclavicular metastasis are reproduced.


A woman of forty-three years had clinical and roentgen evidence of diffuse metastases in the lungs eight years after resection of a thyroid struma. The tumor was not examined histologically. Roentgen therapy was administered daily through one each of two anterior and posterior fields successively, 200 r (170 kv., 0.5 mm. Cu + 1.0 mm. Al filter, distance 50 cm.) being given every day for a total dose of 2,400 r. After an interval of eight weeks the treatment was repeated, and during a period of four years the patient received 20,000 r. The earliest subjective and radiologic indication of improvement occurred after sixteen months, when six courses of treatment had been given. The pulmonary growths had apparently regressed completely two and one half years after the onset of therapy, but fifteen months later masses were again observed on either side of the lower portion of the trachea. Radiotherapy now had no effect. Signs of a cerebral metastasis developed and the patient died one month later. Necropsy disclosed a tumor obliterating the right lateral cerebral ventricle. Histologically this was an adenocarcinoma. As many acini contained a colloid-like substance, the growth was presumably of thyroid origin. Paratracheal and mediastinal masses of similar histologic structure were present, and there were subpleural metastases in both lower lobes, showing regressive phenomena and fibrosis. Roentgenograms of the chest, a photograph of the brain, and three photomicrographs are included.


Roentgen examination of the thorax in a man of forty-six years, who complained of anginal attacks, dyspnea and fever, revealed a dense precordial shadow in the anterior mediastinum. A clinical diagnosis of thymoma was corroborated at necropsy. The tumor invaded the anterior wall of the heart and the innominate veins. A roentgenogram is reproduced.

THE DIGESTIVE TRACT


The author records a series of 59 cases of esophageal carcinoma, which he believes may have an incidence in China several times higher than in America or England. Fifty-six of the patients were men. All were of the laboring class and all had pyorrhea and dental caries. About 65 per cent were in the habit of drinking strong alcoholic liquor.
From his observations the author concludes that dietary habits may play a rôle in this disease. The patients, coming from the less educated classes, know nothing of oral hygiene. They eat rapidly and without chewing well, with the result that the gums and teeth soon become infected and carious from disease and improper care. The bolting of food, swallowing of septic material, eructation of gas, and regurgitation of gastric contents constantly irritate the lining membrane of the esophagus and a continued cell repair is demanded. Ultimately exhaustion of cell control occurs and cancer of the esophagus develops. A few references are appended.


A case is recorded of carcinoma of the thoracic esophagus in a woman of fifty-nine. The diagnosis was made on tissue removed through the esophagoscope and operation was performed according to Torek's technic as modified slightly by King (Australian & New Zealand J. Surg. 6: 307, 1937. Abst. in Am. J. Cancer 33: 600, 1938). A preliminary gastrostomy of the Witzel type was done and ten days after the operation a tube was placed in the upper cut end of the esophagus and connected with the gastrostomy tube, making feeding by mouth possible. No attempt was made to form an artificial esophagus. The patient was well and working on a farm a year after operation.

Among the points emphasized by the author are the importance of adequate x-ray study, including examination of the chest after decompression of the lung; the insertion after the induction of anesthesia of a small stomach tube down the esophagus to aid in its recognition; the closing of the esophageal opening in the diaphragm to prevent herniation and the escape of pleural contents into the abdomen; preservation of the inferior thyroid artery.

Three references are appended. There are no illustrations.


In a series of 906 patients with pernicious anemia, 24 were found to have gastric lesions. In 16 cases, or 1.76 per cent of the entire series, gastric carcinoma was found. Five of these 16 cases have been recorded elsewhere (Conner and Birkeland: Ann. Int. Med. 7: 89, 1933. Abst. in Am. J. Cancer 23: 397, 1935. Priestley and Heck: Ann. Surg. 101: 839, 1935. Abst. in Am. J. Cancer 24: 902, 1935). The remaining 11 are reported here. In 7 of these the pernicious anemia antedated the symptoms of gastric carcinoma and in 4 the development of the two conditions appears to have been simultaneous. Eight instances of associated gastric polyps and anemia were observed.

The literature is briefly reviewed and references are appended.


This paper is devoted chiefly to a description, with illustrations, of the technic of total gastrectomy with anastomosis of the jejunum to the esophagus. The operation is to be considered only in cases of involvement of all or nearly all of the stomach by the malignant lesion, without visible metastases. Even in such cases, if the lesion be a carcinoma, all that can reasonably be expected is prolongation of life with reasonable digestive comfort. In the presence of leiomyosarcoma a cure is not beyond the bounds of possibility.

The author has employed the procedure in 8 cases. Three of these he now believes to have been unwisely selected, as the disease was too far advanced for operation and all the patients died. The remaining 5 patients survived the operation. One patient who had a carcinoma involving practically the entire stomach lived three years and a half and was able during most of that time to earn her own living; one patient was alive at the time of the report without evidence of recurrence a year after operation; one, with a leiomyosarcoma, had been only recently operated on; two died six months [sixteen months if the dates given in the case record are correct] and nine months respectively after operation.

Photomicrographs and roentgenograms are reproduced.

This paper is devoted solely to surgical technic. It covers gastro-enterostomy, subtotal gastrectomy, and the Billroth I and II and Polya repair procedures. The various steps are fully illustrated and a brief bibliography is appended.


A mass in the upper abdomen in a sixty-three-year-old man produced roentgen signs of compression of the stomach and transverse colon. A small area of irregularity of the mucosal relief pattern was, however, detected in the greater curvature of the stomach. Necropsy verified a clinical diagnosis of gastric cancer involving a limited portion of the mucous membrane and giving rise secondarily to a large mass in the gastrocolic ligament. Two roentgenograms are reproduced.


A case report of a tumor in the root of the mesentery producing roentgen signs of duodenal compression. The growth was intimately attached to the anterior surface of the vertebral column and inoperable. Biopsy was not performed. Roentgenograms are reproduced.

Gastric Cancer in a Girl of Nineteen, A. Chandra De. Indian M. Gaz. 73: 224, 1938.

A case of gastric cancer is recorded which is of interest chiefly because of the youth of the patient and the rapid course. Death occurred a little over two months after the onset of symptoms. The histologic picture was "suggestive of adenocarcinoma." No photomicrograph is shown.


Malignant tumors of the small intestine show a special predilection for the region of the ampulla of Vater, where the biliary and pancreatic secretions join the intestinal stream. Not only is this area especially subject to chronic irritation, but it would seem to possess special potentialities for growth, since in embryonic life it is the site of great cellular activity in connection with the budding of the hepatic and pancreatic glandular epithelium. Whatever the explanation, it is by far the most frequent site of duodenal carcinoma (62 per cent of a series of 104 cases mentioned by Hoffman and Pack. See Arch. Surg. 35: 11, 1937. Abst. in Am. J. Cancer 35: 302, 1939).

Carcinoma of the ampullary region may originate in the duodenal mucosa, in the ampulla itself, or in the pancreatic duct. The fact that the growth early in its course causes obstruction to the biliary outflow makes possible a diagnosis of cancerous obstruction of the common duct, but an exact preoperative diagnosis of carcinoma of the ampulla is rarely made. Metastasis occurs late and in untreated cases death is usually due to biliary obstruction before the development of secondary lesions.

Two personal cases are recorded. In one of these the tumor was not removed but a palliative side-tracking of the biliary stream was established by anastomosing the gallbladder to the duodenum. This patient was alive and well two years later. The tumor was an adenocarcinoma grade I. In the second case a transduodenal excision of the growth was done. The patient made a good recovery but the late result is not recorded.

References are included.


The series of cases of carcinoma of the colon here recorded included 45 females and 25 males. The author states that 2 cases occurred in the second decade of life, but since
the youngest patient was twenty-four he presumably means the third, i.e. between twenty and thirty. Thirty-eight per cent of the cases involved the sigmoid, 17 per cent the cecum, and 13 per cent the hepatic flexure, while the remainder were about equally divided among other areas.

The outstanding symptom was pain, followed in frequency by changes in bowel habit. The average duration of symptoms before hospitalization was eighteen months.

Sixty patients received some form of operative treatment. In 15 a simple colostomy was done either as a palliative measure or preliminary to proposed resection; 8 patients had some form of side-tracking operation around the growth; in 9 exploration only was done; in 1 case a simple excision of a growth of the cecum was carried out; 27 patients were treated by resection of the affected bowel, preceded in 26 cases by some form of bowel decompression. The operative mortality was 28 per cent and 10 autopsies were obtained. In 7 of the autopsied cases metastases were either absent or well localized.

Seven patients, or 10 per cent of the total, were alive and well at the time of the report, as follows: 2 with cancer of the sigmoid for six years and three years respectively; 2 with cancer of the cecum for seven and ten years (the latter after local excision); 1 with cancer of the ascending colon for eight years; 2 with cancer of the splenic flexure for three years.

References are appended.

Probable Ring Carcinoma of the Descending Colon; Mango Fibres Obstructing the Ring and Causing Complete Obstruction, S. R. Gore. Indian M. Gaz. 73: 156; 1938.

A woman of forty-five was operated on for intestinal obstruction. At the junction of the descending colon and sigmoid there was found a hard annular growth constricting the lumen of the gut, which had become blocked by a mass of mango fibers. The tumor and enlarged nodes were resected and an end-to-end anastomosis was done. Recovery was uneventful. The diagnosis of carcinoma was not verified histologically.


Three years following radical removal of a cancer of the transverse colon a second primary intestinal tumor, classified histologically as malignant carcinoid, developed in the cecum in a woman aged fifty-four years. The involved portion of the bowel was successfully resected. Roentgenograms and a photograph of the cecal tumor are reproduced.


Removal of the lower sigmoid and rectum for carcinoma must include the regional lymph nodes and lymphatics, especially those accompanying the superior hemorrhoidal vessels, if a high proportion of recurrences is to be avoided. This is best accomplished by the combined abdominal and perineal route. Kirschner's statistics show that the immediate mortality in the combined operation is 35 per cent, but the incidence of recurrence after five years [Kirschner says three years] is 18 per cent. For the sacral route the mortality is 18 per cent and the recurrence rate after five or three years 35 per cent. From these figures it would seem that the combined operation is the best, provided it can be modified so as to reduce the immediate mortality. [For Kirschner's technic and results, see Absts. in Am. J. Cancer 22: 447, 1934; 23: 891, 1935.]

The modified operation is performed in three stages under nitrous oxide-chloroform anesthesia. With the patient on the right side and knees flexed, the anus is closed with a purse-string suture. The perineum is incised and the coccyx and one inch of sacrum is resected. The rectum is separated high up from its attachment to the hollow of the sacrum and the cavity packed with gauze.
The second stage is then begun with the patient in the supine Trendelenburg position. The abdomen is entered through a lower midline incision. The pelvic peritoneum and the peritoneal covering of the mesosigmoid are incised and the sigmoidal vessels are ligated. The mesosigmoid is severed and the lateral and anterior surfaces of the rectum are freed by blunt fingertip dissection. This maneuver is substituted for the usual method of sharp dissection to save time. The mobilized rectosigmoid is severed in the usual manner. The gauze packing is then removed from below, and an assistant inserts a clamp along the hollow of the sacrum and pulls out the distal end of the severed bowel through the perineal wound. This draws together the two margins of the cut pelvic peritoneum, making the reconstruction of the pelvic floor a simple procedure. The proximal end of the severed bowel is then brought out through a lower lateral abdominal incision and the colostomy is completed by one operating team while another closes the midline incision.

The third stage is completed with the patient again in the right lateral position. With traction on the distal stump, the bowel is removed by dissecting it from the bladder and prostate from above downward. The resulting cavity is packed with a Mikulicz pad. This technic has been used in too few cases to warrant the publication of any statistics. It still remains a formidable procedure and is to be recommended only for patients in good preoperative condition. The sacral route is the one of choice for poor risks.

**Abdomino-perineal Resection with Hysterocolpectomy in Rectal Cancer. Indications, Technic, Results, J. Charrrier and Baraya.** Amputation abdomino-périnéale avec hystéro-colpectomie dans le cancer du rectum; indications; technique; résultats, J. de chir. 53: 322-343, 1939.

The operation of choice in rectal carcinoma depends on the location and extent of invasion by the neoplasm. When the lesion is so situated that it invades the lower two-thirds of the vagina, and the cul de sac is free, then only the posterior vaginal wall is removed and the uterus is preserved. If the neoplasm invades the cul de sac and extends about 7 to 10 cm. from the anal margin, a combined colpohysterectomy must be performed, taking a wide margin of tissue. This extensive loss of tissue inevitably results in cystocele. In certain favorable cases, the sigmoid stoma is situated in the perineal defect and yields a satisfactory anus. In others, a preliminary left-sided colostomy is made.

Preoperative vaccination of the patient is carried out by giving three injections of "propidon" at two-day intervals. In fifteen days the temperature is back to normal and if the colostomy has already been done, the second stage is then performed.

The abdomen is entered through a lower midline incision and a careful exploration is made to determine the extent of invasion of the tumor and to decide what type of operation should be done.

The colpohysterectomy technic is described in detail. The vesico-uterine peritoneum is incised and dissected anteriorly and the ureters are isolated and protected from injury. The anterior vaginal wall is incised and a gauze pack placed in the vagina. The broad ligaments are severed and tied off on the two sides and the uterus is freed as in a total hysterectomy. A part of the lateral portions of the broad ligaments is preserved to facilitate the future peritoneal closure of the new pelvic floor. The mesosigmoid is incised and the sigmoidal vessels are tied. Mobilization of the rectosigmoid follows and the peritoneal flaps are sutured behind the bowel. Sutures tied to small sponges are used as markers to define the free edges of the pelvic floor defect remaining after the peritoneal flaps are sutured.

The patient is then placed in the lithotomy position and the anus closed with a purse string. A U incision is made around the anus with the arms of the U extending into the posterior vaginal wall and uniting with the incision made in the anterior vaginal wall from above. The rectum is freed and the sigmoid with the attached uterus is pulled out through the perineal defect. The peritoneal markers are brought out and serve to define the free peritoneal border, which is then sutured to the sigmoid in circular manner close to the site chosen for the resection. The bowel is amputated with a cautery and a Paul tube is anchored in the open end by means of a purse string.
The authors have successfully operated on 7 patients and summaries of the case records are given. In all instances there was a satisfactory postoperative course, but the prognosis depends on the extent of the malignant growth. One patient showed metastases eighteen months later, two are well after twenty-eight months, three are well after four months, and the remaining patient was re-operated upon three months later for intestinal obstruction due to a metastatic stenosing cancer in the bowel. Drawings show the operative technic. Wm. Mendelsohn


The author believes that by ligating both internal iliac arteries it is possible in selected cases to remove the rectum from above without danger of hemorrhage. The patient is thus spared the prolonged illness which would result if a sacral or perineal approach were required, as well as the shock, the pain, and the long healing process which are associated with the posterior approach. References are appended.


A woman of forty-seven years was treated for appendicitis by the Ochsner-Sherren method [abstention from food by mouth, gastric lavage, and rectal irrigations]. The symptoms disappeared, but a hard movable mass continued to be palpable in the right iliac fossa. As this had failed to disappear after twelve weeks, operation was performed and a fungating growth was found obstructing the lumen of the appendix. This proved to be a columnar-cell mucous carcinoma. The patient was well eighteen months later. The author points out that in this case a true acute appendicitis was present and that it was this that precluded an original diagnosis of carcinoma.


Appendectomy was performed in a twenty-five-year-old man for the relief of chronic dyspeptic symptoms. Histologic examination of the thickened appendix disclosed a localized carcinoid in the distal portion of the organ. The patient's condition appeared improved postoperatively. Milton J. Eisen


A case of spontaneous hypoglycemia is reported in which the entire syndrome ran its course in two months. At operation a tumor of the pancreas which proved to be a carcinoma of the islets of Langerhans was found. There were numerous lymph node metastases, but as far as could be determined no metastases to the liver. Autopsy was not obtained. Though no attempt was made to demonstrate the presence of insulin in the tumor tissue, the authors believe they are justified in classifying the case as one of true hyperinsulinism. Photomicrographs and references to other cases of islet carcinoma causing hyperinsulinism are included. [For Abstracts of some of these see Am. J. Cancer 18: 235, 1933; 21: 186, 1934; 24: 459, 1935; 34: 311, 1938.]


This is a report of an islet-cell adenoma of the pancreas in a woman of thirty years, producing hyperinsulinism with symptoms referable to the central nervous system, as convulsions, psychotic manifestations, and organic dementia. At autopsy these clinical features were correlated with degenerative changes in the brain due to the toxic effects of insulinism.
The tumor appears to have been quite typical, the interest of the paper lying in its discussion of the effects of hyperinsulinism on the central nervous system. A long bibliography is included and photomicrographs of the tumor and of the brain tissues are included.

THE BILIARY TRACT


The domain of surgery should include certain primary and secondary tumors of the liver as well as the potentially malignant solitary adenomas.

A case report describes a child eleven years of age who at operation was found to have a primary tumor of the liver. A large portion of the liver containing the tumor was resected and the child recovered. Two years later a metastatic node on the gastro-hepatic ligament was enucleated and the patient is now well, three years later.

Another child, three years old, had a tumor of the liver that ruptured and caused uncontrollable hemorrhage. It proved impossible to remove this tumor and the patient died. A biopsy showed the tumor to be primary in the liver.

A third child, of nine years, underwent an emergency operation and was found to have a hemorrhage from a primary liver tumor. The hemorrhage was controlled and the patient recovered, but the prognosis is regarded as poor.

From a surgical standpoint tumors of the liver may be divided into three classes: solitary adenomas, primary malignant tumors, and secondary tumors. The solitary adenoma may take either of two forms: (a) the simple hepatic dysembyroma having a definite capsule which permits easy enucleation and does not recur; (b) the potentially malignant solitary adenoma, surrounded by a heavy whitish capsule but with no definite plane of cleavage, so that removal from the liver is difficult. Unless these latter tumors are excised early, they have a tendency to become locally malignant and may metastasize.

The primary malignant tumors have no definite capsule but there is often a sclerosis at the edge of the tumor which resembles a capsule. This is most striking in the slowly growing tumors. Metastases take place through the blood stream.

Secondary tumors may have their source in the bowel, thyroid, bladder, or other organs. Removal of these tumors by resection of a large portion of the liver may prolong life.

Short abstracts are given of forty-eight case histories selected from the literature. These serve to illustrate the favorable results following extirpation of liver tumors of these three types from children and adults. Wm. Mendelsohn

RETROPERITONEAL TUMORS


The authors' patient complained of pain beginning in the left costovertebral angle and radiating along the ureter. Similar attacks had occurred two and five years previously. Pyelograms suggested the presence of a hydronephrotic double kidney containing calculi, and operation was done. Extending from the convex border of the hydronephrotic kidney outward to the lateral wall and from the crest of the ilium to the diaphragm was a large vascular mass which on histologic examination was diagnosed as leiomyosarcoma. Part of this was removed with the kidney and x-ray therapy was given postoperatively. The patient was well at the time of the report, less than two years later. Because of the history of pain five years earlier, the authors suspect that calculi may have been present for a considerable period before development of the tumor.
THE SUPRARENAL GLANDS


The patient whose case is presented here was followed over a period of eight years. On her first hospital admission roentgenograms showed a dense, sharply defined shadow in the upper abdomen at the level of the first and second lumbar vertebrae but the nature of this remained undiscovered until autopsy following an operation for acute diverticulitis. It proved to be an encapsulated bony tumor lying between the kidney and the spine, inferior to the adrenal gland. In one end of the mass myeloid tissue was seen with a few islands of granulopoiesis and erythropoiesis.

The various theories suggested to account for heteroplastic bone formation are discussed and the author concludes that the present case is best explained as a simple mixed tumor of monodermal type arising in an embryonal remnant.

Roentgenograms, photographs of the tumor, and photomicrographs are included. A bibliography is furnished.

THE SPLEEN


An emergency laparotomy was performed on a thirty-one-year-old male with a preoperative diagnosis of hemoperitoneum. The peritoneal cavity was filled with blood due to a rupture of an angioma of the spleen. A splenectomy was done and microscopic examination revealed a large organ with diffuse angiomatosis. It contained numerous blood-filled cavities which showed no connection with the blood vessels of the parenchyma. There was no evidence of acute inflammation. Recovery was uneventful.

In a previous publication one of the authors reported 140 cases of hemoperitoneum, of which 116 were due to splenic hemorrhage; in only one case was a hemangioma present.


The author discusses briefly the subject of suprarenal tumors and includes notes on three cases, in all of which there was an elevation of the periosteum of the femur apparently due to neoplastic deposits. In the first case the femoral deposits were found post mortem but roentgenograms had shown deposits in the skull before an abdominal mass became palpable. The author believes that raising of the periosteum in conjunction with an abdominal lump or proptosis might well be considered to go far in support of a diagnosis of suprarenal tumor.

Illustrations and references are included.


The clinical features of adrenal cortex tumors are discussed and a case is recorded which presented most of the characteristic metabolic and physical changes of the disease in the adult female. The patient was a woman of twenty-eight with high blood pressure, amenorrhea, facial hirsuties, and adiposity of the face, neck, chest wall, breasts, and abdomen. Death from shock followed removal of the tumor from the left adrenal and the autopsy findings are given in detail. The right adrenal showed extreme atrophy with only a narrow rim of cortical tissue. Photomicrographs of the tumor are included and references are appended.


This report is based on 35 cases of adrenocortical disturbances seen at the Squier Urological Clinic of the Presbyterian Hospital, New York. Some showed syndromes due to adrenal tumors, but in others no such tumor could be demonstrated. In certain other cases adrenal tumors were present but there was no endocrine dysfunction.
The author discusses the symptoms, diagnosis, and indications for treatment. The tumors without hormonal symptoms are usually large silent carcinomas, in which the percentage of operative cures is not high. Adrenal tumors with androtrropic changes, if operated upon early enough, have a fair prognosis. They are usually of slow growth and remain encapsulated for some time. Symptomatic improvement is usually prompt, but fixed anatomic changes, as in dentition and closure of the epiphyses, are unaltered. Facial hirsutism may persist.

References are appended.

In the ensuing discussion (pp. 811–815) Dr. Charles H. Lawrence reported 3 cases of adrenocortical tumors. In the first case masculinization was marked; in the second there was little masculinization but an odd change in carbohydrate metabolism; in the third there was masculinization of a moderate type.


A case of Cushing's syndrome of six years' duration in a man of twenty-four is recorded. This proved to be due to a left suprarenal carcinoma, which was removed surgically. The patient died twelve hours later with symptoms of profound shock. The right suprarenal was found to be atrophic. The pituitary was examined with special care but serial sections showed no evidence of tumor. No metastases were discovered.

References are appended. Photographs of the patient and of the tumor and two roentgenograms are reproduced.


Three fatal cases of chromaffinoma of the suprarenal gland are described. Paroxysmal attacks of hypertension associated with headache, vomiting, visual disturbances, and a general feeling of distress were the dominant symptoms. A severe retinitis of the albuminuric type was present in all the patients. Two had evidence of cardiac enlargement. The pyelogram in two instances showed downward displacement of the renal pelvis on the involved side.

The first patient, a girl of seventeen years, died during an attempt at operative removal of the tumor, at which time the systolic pressure rose to above 200. In the second, a youth of nineteen, excision of a growth was followed by a precipitous fall in blood pressure and the patient died one hour postoperatively. The third, a man of twenty-five, died of a cerebral hemorrhage, verified at necropsy.

Roentgenograms, photomicrographs, and references are included. Milton J. Eisen

THE FEMALE GENITAL TRACT

Results of the Treatment of Malignant Tumours of the Female Sex Organs, in the Gynaecological Clinic of the University of Amsterdam (Dir. Prof. Dr. A. H. M. J. Van Rooy) in the Years 1923 up to and Including 1931, W. P. Plate. J. Obst. & Gynaec. Brit. Emp. 44: 737–742, 1937.

The series here recorded comprises 545 cases of malignant neoplasm of the female genital system. Three hundred and fifty-seven of the patients had carcinoma of the cervix, and of these 117 were well after five years, giving an absolute cure rate of 32.8 per cent. Two hundred and forty of the cervical carcinoma cases received radium therapy, alone or in combination with roentgen irradiation. Of these, 153 were of groups I and II, with a five-year recovery figure of 43.8 per cent.

Carcinoma of the corpus was treated principally by surgery. In the entire group of 67 cases there were 38 five-year cures, or 56.7 per cent.

The only other group sufficiently large for the calculation of the cure rate was that of ovarian carcinoma, 57 cases with but 9 cures, or 15.8 per cent.

The remainder of the series was made up as follows: carcinoma of the tubes 5 cases, 1 five-year cure; carcinoma of vagina 14 cases, 4 cures; carcinoma of the vulva 11 cases,
no cures; sarcoma of the cervix 7 cases, 3 cures; sarcoma of the corpus 11 cases, 2 cures; ovarian sarcoma 6 cases, 2 cures; sarcoma of the vagina 1 case, no cures; sarcoma of the vulva 3 cases, no cures; chorionepithelioma 6 cases, 3 cures.

From these figures it appears that carcinoma of the uterine corpus offers the best prognosis and tumors of the vulva the worst. The absolute five-year cure rate for the entire series was 32.8 per cent.


This paper is based on the clinical and histologic study of several hundred cervices removed over a ten-year period for inflammatory lesions. In a small proportion early carcinoma was unexpectedly found. Four hundred cases of frank carcinoma of the cervix were also studied.

The author is not in agreement with those who refuse to recognize the occurrence of a precancerous condition and hold that a lesion is either simple or malignant. He believes that there are certain pathological features which point to the probability in a given lesion of malignant change.

The main connective-tissue lesion which would appear to predispose to carcinoma formation is subepithelial hyaline change. In many cases of chronic cervicitis clumps of squamous epithelial cells are seen in the stroma entirely separate from the surface epithelium. In many actively growing carcinomata, also, the surface epithelium at the margins may appear normal while active growth of carcinomatous columns extends outwards in the deeper tissues. This appearance the author believes arises especially from malignant proliferation of deeply displaced epithelial cell columns and for this reason he regards the presence of such columns as precancerous.

Among the epithelial appearances which suggest the possibility of subsequent carcinomatous change is the presence of sharply pointed penetrating columns of inter-papillary epithelial downgrowth. In the glandular tissue of the cervical canal the principal change observed which might be regarded as precancerous is a tendency for the glands to lose their racemose appearance and revert to a simpler type.

It is, however, in the individual cells that most observers agree that the first predisposition to cancer is to be seen. The author states that the main changes which would indicate a malignant tendency are slight variations in structure or relations of a limited number of cells. When a large proportion of the cells show such changes carcinoma is already present. [All this is perfectly true, but if dependence is to be placed on examination of fresh sections with an oil immersion lens, a good many erroneous diagnoses of carcinoma are going to be made. Again everyone recognizes that, while leukoplakias in the cervix and elsewhere may prove to be precancerous, most of them are not. The photomicrograph reproduced in Fig. 3 illustrates well the varied aspects of the downgrowth of epithelium, but many such lesions heal with simple treatment.]

Photomicrographs and references are included.


Though the author has seen 5 cases of early portio carcinoma without prior laceration or infection, the majority of hi cases of cervical cancer have shown the presence of inflammation or trauma. He divides the well recognized macroscopic growths into four degrees: (1) those involving the cylinder of the cervix; (2) those with infiltration of the entire depth of the cervical musculature; (3) those with involvement of the immediate attachments of the uterus, as the parametria, uterosacral ligaments, and fascia; (4) those with involvement of the bladder, bowel, or extra-uterine lymph nodes. Of the cases seen between 1930 and 1936, 20 were of the first degree, 43 of the second, 121 of the third, 35 of the fourth. The greater part of the 22.5 per cent five-year cures were of first and second degree cases.

Histologic study of this series, with classification according to Frankl (Lectures and Demonstrations in Vienna, 1927), showed 14 growths of high maturity, 40 of mid-maturity, 107 of low maturity, and 58 unclassified. At the end of five years 7.14 per
cent of the patients in the high maturity group were alive; 12.5 per cent of those in the mid-maturity group, and 13.08 per cent of the low maturity group.


The author stresses the necessity for early diagnosis in carcinoma of the cervix, advising the routine application of Schiller's iodine test to every parous woman. He points out the necessity for effective treatment of cervical lacerations and calls attention to the potential malignancy of the mucous polyp.


A paper presented before the Vermont Medical Society, setting forth the author's well known views on carcinoma of the cervix, for which see Absts. in Am. J. Cancer 20: 935, 1934; 23: 674, 1935; 29: 618, 1937; 35: 603, 1939.


The authors advocate a wider application of bilateral ligation of the hypogastric arteries by the extraperitoneal route for control of the hemorrhage due to advanced carcinoma of the cervix. They review the foreign literature on the subject but could find nothing in American publications. The technic of the procedure is described and illustrated and 5 cases are recorded, in all of which bleeding was controlled. The operation is accompanied by no mortality and does not jeopardize the nutrition of other pelvic structures, as the bladder and rectum. References are appended.


After having commented upon a great number of statistics, the author compiles ten different surveys with a total number of 822 cases treated surgically and 807 cases by surgery and postoperative irradiation. Radiotherapy produced a 7 per cent improvement in the five-year cures. Seven statistical tables are included. F. Burgheim

**Comments on the Therapeutic Results in Cervical Carcinoma at the University Woman's Clinic in Breslau,** H. R. Schinz. Bemerkungen zu den Belehrungsergebnissen beim Kollumkarzinom an der Breslauer Universitäts-Frauenklinik, Strahlentherapie 57: 655–660, 1936.

Schinz analyzes a paper by Reiprich (Strahlentherapie 51: 601, 1934. Abst. in Am. J. Cancer 24: 464, 1935) and concludes that the statistical surveys of that publication contain some inadequacies (e.g. the number of operative deaths is not always mentioned) and that the conclusions are somewhat distorted because of too great a dissimilarity in the number of cases in each group treated at different times.

F. Burgheim


The author records 13 instances of vaginal recurrence of uterine cancer following radical surgical intervention for the primary tumor and postoperative radiotherapy. Irradiation in these cases was administered anteriorly and posteriorly through two fields. No vaginal metastases were observed in a series of 644 patients with cancer of the female genital tract irradiated through an additional perineal portal. Two diagrams illustrate the technic employed. Milton J. Eisen

A group of 6 heterotopic mesodermal tissue tumors is reported. One of these was primary in the lower vagina, 4 involved the cervix, and one had its origin in the body of the uterus.

The simplest explanation of the histogenesis of this group of neoplasms is based upon the inclusion and persistence in the müllerian organs of mesenchymal cells which retain a pluripotential capacity for differentiation into various mesodermal tissues.


A woman of twenty-one years died of a uterine chorionepithelioma with diffuse pulmonary metastases eight months after childbirth. A roentgenogram of the chest is reproduced.

Milton J. Eisen


In an investigation of the pathological and clinical aspects of necrotic uterine myomata the author made a study of the blood supply both of the normal and the myomatous uterus, a preliminary report of which he presents. Two types of myomata are recognizable—the hard, white, more fibrous myoma with relatively poor vascularization and the light red myoma rich in vessels and muscular tissue. A similar difference exists between the dry type of necrosis and so-called hydric necrosis.

Roentgenographs of normal uteri and of myomata, taken after injection of a radiopaque substance, are reproduced. References are appended.


The author was able to find published records of only 16 primary sarcomas of the fallopian tube. He reports a case which he believes is the first in the Scandinavian literature. His patient was a woman of sixty-two with a pelvic tumor thought probably to be of ovarian origin. At operation it was found to arise from the fallopian tube. Microscopic examination showed a predominantly spindle-cell growth with scattered giant cells. Postoperative roentgen therapy was instituted but death from pneumonia occurred forty days after removal of the tumor. Incomplete post-mortem examination revealed no evidence of metastasis. The earlier cases are briefly reviewed and some general conclusions are drawn regarding these unusual growths. References are appended. There are no illustrations.


A subcutaneous tumor in the left costochondral junction was removed from a woman of forty-one and found on microscopic examination to resemble papillary cystadenocarcinoma of the ovary. Inquiry as to the patient's previous history revealed two previous operations. At the first, fifteen years before, a papilloma of the left ovary was removed. The question of malignancy arose at that time but no microscopic study was done. Two years later, at a second laparotomy, a large pelvic tumor extending above the umbilicus was found and a complete hysterectomy was done. Again there was no microscopic examination, but there seems little doubt from the description of the penetration of the cyst walls and of free solid tumor masses that the condition was a papillary carcinoma of the ovary. It is not clear whether this second tumor was a recurrence or whether the original tumor was bilateral.

Shortly after removal of the subcutaneous nodule, thirteen years after the second abdominal operation, a nodule appeared just above the operative site, and roentgenograms revealed a mass beneath the sternum. The patient was again operated on. Microscopically the superficial nodule showed quite typical papillary adenocarcinoma,
practically identical with the material from the previous operation. The deep portion showed extensive hyaline degeneration and islands of carcinoma cells in various stages of degeneration, with foci of calcification and inflammatory reaction. Death occurred on the eighth day after operation, but autopsy was not obtained. Drawings of the tumor but no photomicrographs are included.


The author has collected 266 cases of granulosa-cell tumor, including 5 of his own. The latter are presented in this paper. Contrary to common opinion, this tumor occurs more frequently before the menopause, the maximum incidence being between the ages of forty and fifty years. The appearance at operation is varied. Some tumors are so small that they are discovered only after serial section of the removed ovary. Others grow to an enormous size (10 kg.) and may even invade the neighboring tissues and organs, producing ascites.

At least four histologic types are seen. (1) The folliculoid type is characterized by "microfolliculoids" or "macrofolliculoids." These strongly resemble the normal follicles except that an ovum is absent although Call-Exner bodies are present. The fluid appears to be identical with liquor folliculi. (2) In the massive and insular form, the picture resembles cutaneous epithelioma, large masses and islands of epithelial cells being separated by thin strands of connective-tissue elements. (3) In the cylindromatous or trabecular type the stroma is hyalinized and separates the epithelial cells so that the appearance is that of the cylindromas. In other places the epithelial cells are reduced to strands which unite with one another in trabecular form. (4) In some instances the epithelial cells seem to be converted into elements indistinguishable from sarcoma cells, creating a sarcomatoid type.

Clinically the manifestations vary with the sexual age of the patient. This is due to a pure endocrine effect. In children, sexual precocity develops at an early age, with onset of the menses, pubic hair, and development of the breasts. In the sexually active adult irregularity of the menstrual cycle results, with either amenorrhea, metrorrhagia, or menorrhagia. After the menopause, the menstrual cycle may start again with irregular bleeding. All these effects can be produced experimentally by injecting massive doses of follicle hormone.

An excess of follicle hormone is found in the blood, but studies of urinary excretion of the hormone are unsatisfactory. Estimates of the hormone content of the tumor are also unreliable.

Surgical removal of the ovary involved by the tumor relieves the symptoms. Ordinarily a simple oophorectomy suffices, but if the neighboring organs are invaded panhysterectomy is indicated. A tentative estimate of 25 per cent recurrences is given.

Radiotherapy should be reserved for poor operative risks or patients in whom the tumor has progressed to such an extent that operative removal cannot be completely or safely performed.

WM. MENDELSON


As indicated by the title, this is a review of the literature. Three photomicrographs are reproduced and a long bibliography is appended, including many papers not cited in the text.


Since ovarian dysgerminoma is prone to occur at an early age and in patients with imperfectly developed genitalia, its observation in association with pregnancy is of special interest. The authors could find but one instance in the literature (Doubrère: Bull. et mem. Soc. nat. de chir. 59: 1100, 1933. Abst. in Am. J. Cancer 22: 201, 1934). Their own patient was eighteen years old, and was first seen when she was eight months pregnant. She refused examination at that time and the first evidence of the tumor
was obtained after the onset of labor, at term, when a tense mass was found filling the pouch of Douglas and reaching well above the pelvic brim on the left side. A cesarean section was required before the tumor could be disimpacted. A healthy child was delivered and the patient made a good recovery. She was delivered of a second child two years later and at the time of the report was again pregnant.

The tumor measured some $18 \times 10 \times 5$ cm. and was well encapsulated. The histologic picture was characteristic of dysgerminoma, closely resembling that of testicular seminoma. Pictures of the tumor and photomicrographs are included and there is a bibliography.


This study is based on a series of 31 cases of ovarian fibroma with parallel observations on 21 examples collected from the literature. The highest incidence is at the menopause and in the author's series the condition was most frequent in multiparae. The symptoms include menstrual disturbances in younger women and sanious discharge in those past the menopause, pain, abdominal swelling, and pressure symptoms. [The author does not mention pleural effusion, which is a well known symptom (see following abstract), though he states that thoracocentesis was done in several of the patients of the collected series.] The tumor may be fixed to the uterus or entirely separate from it. Only one of the author's cases was bilateral, as was one of the series from the literature.


Meigs and Cass in 1937 reported 7 cases in which ovarian fibroma was accompanied by ascites and pleural effusion (Am. J. Obst. & Gynec. 33: 249, 1937. Abst. in Am. J. Cancer 32: 484, 1938). Weld records 2 additional cases, in one of which the tumor was bilateral. As in the previous series, the fluid disappeared following removal of the tumor. The cause of the effusion is as yet unexplained. References are included.


Report of the successful removal in two stages of an ovarian cystadenoma weighing over 100 lb. and containing $71\frac{1}{2}$ pints of fluid. References to other cysts of excessive size are included.


Two cases of carcinoma were seen at the New York Post Graduate Hospital among 178 lesions of Bartholin’s gland recorded in a period of twenty years, an incidence comparable to that in the Mayo Clinic (Surg. Clin. North America 6: 1325, 1926). The first of the two cases fulfilled all of Honan’s requirements (Inaugural Diss., Berlin, 1897), namely: (1) typical vulval site, (2) position deep in the labium, (3) connection with the gland duct, and (4) the presence of intact gland tissue. In the second the first two criteria were fulfilled but no normal portions of the gland or duct were found in the microscopic sections available and the gross specimen had been discarded.

Photomicrographs are included and there is a bibliography of 60 references.


An outline of the surgical indications for vulvar and vaginal cysts. No cases are recorded. Illustrations are not included.


Four cases of heterotopic free adenomyomatous tumors of the abdominal cavity are reported. The preoperative diagnosis in three instances was ovarian cyst and in one a fibroid tumor of the uterus. Three photomicrographs are included.

Two cases, apparently with no unusual features, are recorded, with illustrations and a few references.

THE GENITO-URINARY TRACT


The following classification of renal tumors is given, with figures indicating the number of cases of each found among 30,000 necropsy records from the Department of Pathology of the University of Minnesota.

I. In children
   A. Wilms tumor, 5
   B. Multiple tumors with tuberose sclerosis, 1

II. In Adults
   A. Parenchymal
      1. Fibroma
      2. Leiomyma
      3. Lipoma and liposarcoma
      4. Fibrosarcoma, 1
      5. Hemangioma, 1
      6. Wilms tumor
      7. Adenoma
      8. Adenocarcinoma

   B. Pelvic
      1. Papilloma, 1
      2. Carcinoma, 3

Two histologic drawings are included.


The author presents an interesting historical survey of the development of ideas and procedures relative to malignant tumors of the kidney and renal pelvis, beginning with Rayer’s three-volume Traité des maladies des reins, published in 1841. A comprehensive bibliography is appended, with titles of classic works where other references may be found.


The 94 cases forming the basis of this report include 82 tumors arising in the kidney cortex, 9 tumors of the renal pelvis, and 3 of extrarenal origin but so closely attached to the kidney as to lead to a preoperative diagnosis of renal tumor. In the cortical series the pyelographic signs were deformities or obliteration of the calices, displacement of the pelvis, displacement or bowing of the ureters, and changes in the contour of the kidney demonstrated by intravenous pyelography. The chief deformities produced by the tumors of the pelvis, were dilatation of the calices and pelvic defects.

Reviewing this series of cases, the author concludes that the roentgen picture constitutes but one link in the chain of evidence leading to a diagnosis of renal tumor, supplementing the history and clinical evidence. No illustrations are included.


The established pyelographic signs of malignant neoplasms of the kidney are reviewed on the basis of the findings in 21 cases. Diagnosis of tumor was confirmed by operation, evidence of metastasis, or autopsy. In one patient without renal symptoms a congenital
THE GENITO-URINARY TRACT

deformity of the calices was erroneously diagnosed as tumor and a nephrectomy was performed. Drawings and roentgenograms are reproduced. **Milton J. Eisen**


Of 82 carcinomas of the renal parenchyma for which operation was done, 12 showed calcification both roentgenographically and on pathologic study. In 2 other patients, not operated on, roentgen study revealed calcium deposits in a parenchymal carcinoma. No evidence of calcification was found in tumors of the renal pelvis or in mixed tumors seen during the same period.

In some cases the calcified areas were small, resembling calculi in the calices, but injection pyelography showed the deposits to be within the tumor tissue itself. In other cases there was irregular calcification producing a mottled appearance; in still others diffuse strands of calcified material were present. In a number of instances the calcification was apparently secondary to hemorrhage and necrosis within the tumor.

From their records the authors consider calcification as an unfavorable prognostic sign; only one of their patients survived as long as two years without metastases. Braasch and Griffin, on the other hand, had 6 three-year survivals in a series of 7 cases (J.A.M.A. 106: 1343, 1936. Abst. in Am. J. Cancer 28: 215, 1936).

Roentgenograms and photomicrographs are reproduced. References are appended.


In 5 consecutive cases of the so-called adenomyosarcoma of the kidney, or Wilms tumor, in children, arterial hypertension was observed. In 2 of these the blood pressure fell following removal of the tumor but rose again with recurrence of the growth. It cannot be determined on the basis of so small a group of cases whether the tumor tissue itself is responsible for the hypertension or whether its cause is to be sought in some occasional complication of the tumor growth, such as a disturbance in its arterial supply, necrosis of tumor tissue, etc. Attempts to find a pressor substance in the tumor tissue or the inclusion within it of aberrant chromaffine tissue in the present series gave negative results. That the elevation of blood pressure was in some way a consequence of the tumor growth seems unquestioned, for complete examination in 3 cases (including autopsy) and the clinical data in the remaining 2 failed to afford any other explanation. References are appended.


Kretschmer and Hibbs in 1931 recorded 17 examples of the Wilms tumor in children (Surg. Gynec. & Obst. 52: 1, 1931. Abst. in Am. J. Cancer 15: 1819, 1931). To this series Kretschmer now adds 7 cases. Five patients of this new group died within a year and a half of operation; two were living and well at the time of the report, one three years and four months and the other two years and six months after nephrectomy. Preoperative irradiation was given in both of these cases with marked diminution in the size of the tumor. One patient received 26 x-ray treatments after operation and in the other postoperative roentgen therapy was advised but no details are given. One patient from the author's earlier series has remained well for nine years after nephrectomy. This patient received no preoperative irradiation.

Though the Wilms tumor is generally regarded as being radiosensitive [an erroneous view], in one case of this series, proved histologically, irradiation was without effect on the size of the growth.

The pathogenesis of these tumors is discussed, with numerous references to the literature, and some government statistics on cancer of the kidney in children are quoted. The paper is illustrated and a bibliography is appended.

This study supplements one published in 1925 by Smith and Shoemaker on the end-results in a series of cases of hypernephroma (J. Urol. 14: 389, 1925). It is based on 105 cases of renal cancer seen at the Massachusetts General Hospital from 1925 to 1935 inclusive. End-results are available in all but 6 instances. Nephrectomy was done in 72 cases. Of this group, 5 patients are untraced, 22 are alive from one to ten years after operation, including 7 who have passed the five-year mark, and 45 are dead, 5 of this number having developed metastases after five years. Of the 10 patients in whom operation was limited to exploration, all died within six months. Of 3 patients in whom biopsy alone was done, 2 died after intervals of three months and six years, and the third patient was untraced. One patient who was not operated on lived three years, but the rest of this group died within fifteen months from the time of diagnosis. In the entire series only 12 lived more than five years, and at the time of the report only 7 were still alive and “comparatively well.” The series included 7 Wilms tumors in children, 5 adult sarcomas, an epidermoid carcinoma of the renal pelvis, 7 papillary carcinomas of the renal pelvis, and 65 adenocarcinomas or hypernephromas. In 20 patients the type of tumor is not known.

In an attempt to determine the cause of the high mortality in this series of cases, the author made an exhaustive study of the literature, from which he cites numerous reports, all indicating the unfavorable prognosis of renal tumors. He finds the answer to his question in the difficulty of making an early pathologic diagnosis. Even when a clinical diagnosis is made within a few days of the appearance of symptoms, the pathologic process may be well advanced. The growth is insidious in nature, early symptoms are few, and frequently the first evidence of disease is due to a metastasis or local extension. Still another factor contributing to the ultimate mortality is failure to do a sufficiently radical operation even when this is possible. Such operations, though they might not increase the percentage of operative cures, would probably reduce the number of recurrences. The radical removal of solitary metastases, the opening of the vena cava for the removal of tumor plugs, and radiotherapy are discussed, with references to the literature.

A bibliography of 121 items is appended.


The surgical aspects of renal tumors are discussed. For small cortical tumors and tumors of the pelvis the lumbar route is indicated, for large cortical tumors the transperitoneal route. In papillary tumors of the renal pelvis removal of the entire ureter and segmental resection of the bladder are an essential part of the procedure.

The end-results of nephrectomy are difficult to estimate, for recurrence may be long delayed. The type of tumor is an important factor in survival. Non-papillary tumors of the renal pelvis are the most certainly fatal. Papillary pelvic tumors show a better prognosis but bladder transplants are likely to develop. Statistics for renal tumors as a whole show an operative mortality varying from 4 to 30 per cent in different series. The five-year survival averages about 18.5 per cent, but many patients die of recurrence after passing the five-year mark. References are appended.


The author believes that much more evidence must be available before the value of radiation in the treatment of renal tumors in adults can be said to rest on a firm scientific basis. The following facts seem to be reasonably well established:

1. External irradiation alone cannot be relied upon to cure these tumors.
2. Preoperative irradiation will occasionally decrease the size of the tumor. External measurements and comparison of excretory pyelograms indicate that regression may be about 20 to 40 per cent in average cases. This may facilitate nephrectomy.
3. External irradiation will not make an inoperable tumor operable. A tumor is considered inoperable when it has penetrated the renal capsule and has grown in the perirenal tissues. Large size alone does not constitute absolute inoperability.
4. If tumor cells are disseminated by trauma, often unavoidable in performing a careful nephrectomy, preoperative irradiation cannot prevent the disaster.

5. During preoperative irradiation and the following period of waiting for full radiation effects in the tumor and regeneration in the superficial tissues, metastasis may occur.

6. If a renal tumor is only partially removed, postoperative irradiation may slow the recurring growth but will not stop it.

7. There is a considerable difference in the radiosensitivity of metastases. Those in bones are only slightly inhibited by treatment, while those in the lungs may occasionally be made to disappear.

For a preoperative roentgen cycle a daily dose of 250 r is given to a single portal, three portals being treated in turn, with a total of 2500 r to each. The cycle consists of 30 treatments and requires about a month for completion.

For inoperable tumors and for postoperative therapy a maximal tumor dose is required. Four portals are advantageous and as much as 3000 r may be given to each. [Even this dose, which is only 4000 r in the tumor, is quite insufficient for cure.—Ed.]


The authors review a considerable number of recorded series of Wilms tumors and quote varying opinions as to treatment. The mortality rate they find to be well over 90 per cent. They add two cases seen personally, one in a girl of six, terminating fatally five months after the tumor was discovered, and one in a boy of fourteen months, diagnosed clinically and treated by x-ray therapy alone. In the latter case the tumor regressed, the child gained weight, and is apparently well after almost three years of treatment, having received over 10,000 r of roentgen irradiation. Pohle and Ritchie (Radiology 24: 193, 1935. Abst. in Am. J. Cancer 25: 229, 1935) have also reported a case treated by roentgen therapy alone. Their patient was alive and in good health three years and eight months after the institution of treatment.

Roentgenograms and a photograph of the authors’ second patient are reproduced. A long bibliography is appended.


Two cases of squamous-cell carcinoma of the renal pelvis are recorded, in one of which (Case 1) direct invasion of the duodenum had occurred. The literature on these tumors is reviewed but no other instance of duodenal involvement was found. Calculi are associated with more than 50 per cent of tumors of the renal pelvis. In the author’s Case 1 an irregular branching stone was found completely surrounded by neoplastic tissue. No mention is made of calculus in the second case. The prognosis is extremely poor, no five-year cure being recorded. Both the author’s patients died following nephrectomy.


A primary tumor of the ureter is recorded, bringing the total number of cases in the literature to 72. It was an infiltrating epidermoid carcinoma, grade III. Roentgenograms are included. There are no references.


The author discusses the three methods of treating bladder tumors, namely surgery, fulguration, and irradiation. He believes that a proper combination of electrocoagulation with subsequent radon implantation and x-ray therapy is the method of choice. The principal problem is the accurate estimation of the extent of the tumor. To meet this an instrument has been devised which permits measurement of the tumor base through the endoscope after the superficial portion has been removed by electrocoagula-
tion. Radon implantation is carried out with the same instrument. References are appended. There are no illustrations.

THE NERVOUS SYSTEM


The authors describe the application of electro-encephalography as described by Walter (See Absts. in Am. J. Cancer 29: 420, 1937; 30: 642, 1937) in 80 patients suspected of intracranial lesions. In 50 patients a focus of abnormal activity was found. In 37 of these, including 15 tumor cases, the position of an organic lesion was established. In every verified example the position of the lesion coincided with the area of electrically abnormal cortex. In 1 case with two lesions, only the major lesion was demonstrated. In 6 cases it had not been possible to localize the lesion, which was demonstrated by electro-encephalography and subsequently exposed surgically, by any other method, and in 7 cases a negative diagnosis in the face of clinical evidence to the contrary was subsequently shown to be correct.

Five illustrative cases are recorded. References are appended.


A rather general discussion of the diagnostic significance of ocular palsies, the various types of nystagmus, visual defects, ophthalmoscopic changes, and subjective visual disturbances, and their localizing value in the presence of a brain tumor. No references are included.


This paper contains a detailed discussion of the occurrence of papilledema in various general affections and in localized disease of the nervous system. A considerable portion deals with the importance of this condition in the diagnosis of brain tumor. References are appended.


Neurological examination in a man of fifty-five years, who complained of headache and vomiting and gave evidence of a depression psychosis, disclosed a difference in size of the pupils, diminished upward excursion of the eyes, vertical nystagmus, and diplopia. The optic fundus was normal. An encephalogram showed absence of filling of the left lateral ventricle and displacement of the right lateral ventricle, indicating an expanding lesion in the left hemisphere. A large tumor in this area would presumably give rise to more pronounced neurological signs. In addition, the ocular manifestations pointed to a lesion in the midbrain. The patient died one day following a cerebral decompression and at necropsy a glioblastoma multiforme was found in the medulla of the frontal lobe extending to the anterior horn of the left lateral ventricle. The signs of midbrain involvement are explained on a basis of pressure caused by the tumor. There were no morphologic changes in this area. Photographs of the brain and photomicrographs are reproduced.


Homonymous quadrantopia, commonly associated with tumor of the temporal lobe, is explained on the basis of compression of the choroidal artery as a consequence of the location of this vessel between the external expanding lesion and the fibers of the
optic tract. The resulting ischemia in the lateral geniculate body, one of the components of the optic apparatus, accounts for the functional alterations in the optic nerve fibers and the accompanying visual disturbances. Diagrams are included.

Milton J. Eisen


A study of three cases presented here brings the writer to the conclusion that astrocytomata may be potentially malignant.

Case I: A man of forty-nine was first operated upon for “a cystic tumor of right parietal region.” A second operation led to a diagnosis of “protoplasmic astrocytoma.” Necropsy revealed a tumor fairly characteristic of astrocytoma but having also areas of more definite malignancy.

Case II: A man of twenty-one had a tumor diagnosed at operation as an “astro-glioblastoma.” Necropsy showed the lesion to be an extensive malignant glioblastoma.

Case III: A patient of fifty-three years was found at operation to have a “predominantly benign astrocytic lesion.” Necropsy findings revealed a malignant glioblastoma multiforme.

(This is a good paper but adds somewhat to the confusion already surrounding the gliomas. Nearly a fifth of all gliomas have not yet been classified. The true fibrillary astrocytoma is as benign as a fibroma. Its complete removal is generally followed by a real cure. The protoplasmic astrocytoma is a different problem. Though it was formerly considered quite benign, data accumulating in recent years make its complete benignity suspect. Finally the glioblastoma multiforme is a complicated problem not to be judged by a few case reports. It is highly malignant and a survey of its histopathological structure will show both neoplastic astrocytes and non-neoplastic repair gliosis composed of entirely benign brain astrocytes.)

Edwin M. Deery


Three case reports dealing respectively with the following necropsy findings: (1) a cerebellopontine tumor; (2) hydromyelocele with adhesive arachnoiditis; (3) syphilitic leptomenigitis. [The case reports are rather mixed up in the review of the literature.]

Edwin M. Deery


A general discussion of the diagnosis of brain tumors with some illustrative case reports.


A case of suprasellar neoplasm in a man of forty years, in which radiotherapy was remarkably successful, is recorded. Roentgen evidence of marked enlargement and deformity of the sella turcica was present in addition to the characteristic symptomatology and objective signs of intracranial tumor. The brain was exposed, but the growth appeared inoperable. Despite the unsuccessful outcome of preoperative and immediate postoperative radiotherapy, intensive roentgen irradiation was administered. A total surface dose of approximately 1500 r was given through five fields in 15 daily fractions (170 kv., 0.5 mm. Cu + 1 mm. Al filtration, 45 cm. distance). During the succeeding six months the patient received two additional series of 2000 r each. After six months the psychic disturbances, headache, left-sided paresis and paralysis of the facial nerve...
ABSTRACTS

aborted. Subjective improvement was paralleled by complete regression of papilledema and bitemporal hemianopsia. There was no evidence of recurrence three years later. Radiographic examination of the cured patient is not recorded. Two roentgenograms are reproduced.

MILTON J. EISEN


Two cases of basophil adenoma arising in the pars intermedia are recorded as furnishing additional evidence of the caution necessary in estimating the effects of basophil adenomas of the pituitary. In the first case the only symptom referable to the hypophysis was high blood pressure but the patient's advanced age made the association of the adenoma and the hypertension questionable. In the second patient, a woman of fifty-five, a number of the major characteristics of pituitary basophilism were observed, as adiposity, striae atrophicae, hirsuties, hypertension, and florid complexion, but there was no menstrual disturbance, glycosuria, osteoporosis, hypertrophy of the adrenal cortex, or hyaline change in the basophilic cells of the hypophysis. In both cases there occurred diffuse invasion of the neural lobe by basophils, but the majority of observers do not accept a direct relationship between such invasion and hypertension.


A bibliography of 49 references and 9 photomicrographs accompany the paper.


A youth of seventeen years presented general evidence of brain tumor, as headache, vomiting, diminished vision and secondary optic atrophy, but no localizing signs. He died suddenly during an epileptiform seizure twenty months after the onset of symptoms. A necropsy disclosed a diffuse glioma involving the thalamus region bilaterally and extending to the floor of the third ventricle. Hydrocephalus of the lateral and third ventricles had resulted secondary to compression of the aqueduct of Sylvius. The author surmises that the tumor arose in a subependymal anlage extending from the thalamus to the recessus pinealis and aqueduct. Nests of atypical cells were observed in the ependyma and subependymal zones of the tumor and non-tumor areas of the thalamus and aqueduct and in the lining of several ependymal cysts of the third ventricle. Histologically the tumor consisted of foci of astrocytoma, astroblastoma, and diffusely arranged smaller cells. The latter are probably derivatives of the subependymal layer. Photographs of the tumor and photomicrographs are reproduced.

MILTON J. EISEN


The author describes the technic of lipiodol injection by way of the cisterna magna and by the lumbar route for the localization of spinal tumors. Illustrative roentgenograms with brief notes on the cases are reproduced. The introduction of lipiodol into the spinal theca is a useful method and the author believes without any real danger, though it demands the closest association between the radiologist and neurologist. [Some neurologists hold that the irritative effects of lipiodol are so severe that the technic should be employed only when it is certain that all the chemical can be removed from the spinal canal.—Ed.]


This is a collective review of 451 intraspinal tumors reported from the Mayo Clinic, with a bibliography of forty references. The surgical mortality in the group was 4 per
cent. The time for recovery of motor and sensory losses depends on the character of the tumor and the degree and duration of the paralysis. A 25 per cent loss of function is usually recovered within three months, a 50 per cent loss requires from six to twelve months, a 75 per cent loss requires up to eighteen months, and a total loss requires up to two years unless the injury to the cord has been so extensive that recovery will never take place. The removal of intramedullary, infiltrating tumors often results in temporary improvement which may continue from six months to seven years, but rarely is recovery to any degree comparable to that following removal of extradural and subdural but extramedullary tumors.

Drawings illustrating operative technic are included.


Gangliocytoma is an uncommon tumor consisting of ganglion cells, without proliferation of nerve fibers. The author describes a single case in a poorly developed youth of seventeen years. Nausea, dysphagia and dyspnea had been present since childhood. Attacks of vertigo occurred later and intractable hiccoughs developed shortly before death. The fatal outcome is surmised to be a result of sudden cessation of the bulbar functions. At necropsy a medullary tumor was found, measuring $4.5 \times 2.5 \times 1.0$ cm and extending from thepons to the first cervical segment of the spinal cord. It consisted of well differentiated ganglion cells containing Nissl's granules. Nerve fibers were absent and there was no evidence of glial proliferation. A photograph of the brain and photomicrographs are reproduced.


A man aged twenty-one had multiple neurofibromatous tumors over the face, trunk, and extremities, as well as ophthalmoplegia, facial palsy of the peripheral type, and disturbances of locomotion; all of the reflexes of the lower extremities were abolished. The author assumes the presence of extramedullary tumors compressing the lumbosacral section of the cord and involvement of the base of the brain to account for the nervous manifestations. Four of the external lesions occupied sites unusual for this disease, namely the posterior half of the tongue, the base of the spine, the right eyebrow, and the palm. A photograph of the patient and references are included.


Two verified case reports are presented to demonstrate the Wernicke-Korsakow process in the brain as secondary to non-neurogenic malignancy elsewhere in the body. There is a review of the literature and illustrations are included.

Case I: An elderly man had, among other complaints, a gastric carcinoma, verified at operation. A neurological diagnosis of "Korsakow psychosis with polyneuritis" was also made. At autopsy, besides the gastric carcinoma there were found marked degenerative changes in the mammillary bodies as well as an unexplained area of calcification in the cerebral cortex.

Case II: An elderly woman had carcinoma of the uterus. Clinically she, too, appeared to show Korsakow's psychosis with polyneuritis. Necropsy showed the typical degenerative cerebral changes in the mammillary bodies, the walls of the third ventricle, and farther back in the region of the tenth cranial nerve nucleus. EDWIN M. DEERY
150

ABSTRACTS

THE BONES AND JOINTS


The osteolytic bone sarcoma is a tumor of rapid growth and a high degree of malignancy. The characteristic roentgen picture is that of a lytic process. In the early stages areas of normal density interposed between areas of rarefaction produce a moth-eaten appearance. With the progress of the disease a periosteal reaction occurs which may be manifested roentgenographically by lipping, fuzziness, or splitting and interruption of the continuity of the periosteum. Pathological fracture is of frequent occurrence.

The present study is based on 131 cases, 3 of which the author discards because of uncertainty as to the diagnosis. Ninety-nine patients were followed and 8 of these lived for five years or longer. Three died with metastases between five and eight years after operation while 5 lived more than eight years without evidence of recurrence. In those dying less than five years after operation the average survival period was 10.3 months.

The 8 cases with five-year survivals are reported. Only 2 of the patients were under twenty; the oldest was sixty-one. In 4 cases the tumor was considered to be a primary lesion; in 2 it probably developed at the site of a giant-cell tumor and in 1 possibly at the site of a cyst; the remaining case occurred in a patient with a long history of arthritic symptoms. Several of these 8 patients had one or more operative procedures prior to amputation, but in all radical surgery was ultimately instituted. The microscopic findings in some cases were suggestive of a higher degree of malignancy than was to be expected from the duration of symptoms and roentgen appearances. Five-year survivals are less likely in the primary tumors of young persons with a brief duration of symptoms.

Photomicrographs and a short bibliography are included.


A series of primary and secondary tumors of the pelvis is recorded.

Benign Tumors: Two cases are described. A man aged thirty-four had an osteochondroma of the pubis evident radiographically as a sharply circumscribed lesion. The growth was resected and the patient was symptom-free one year later. In the second patient, a twenty-seven-year-old man, a localized bony lesion of the sacrum, presumably an osteoma, was diagnosed roentgenographically, but since no doubt existed as to the benignity of the lesion biopsy and surgical treatment were avoided.

Malignant Tumors: A giant-cell tumor in the pubis with secondary malignant change is described in a woman of thirty-seven years. Symptoms appeared to follow a local injury sustained one and one half years previously. The primary growth, showing no roentgen or histologic evidence of malignancy, was removed by curettage. A recurrence after fifteen months was treated with roentgen irradiation. The total dose was 825 r. Four months later progression in the size of the growth and bone destruction were observed and the malignant nature of the process was verified by biopsy. There was a decrease in the number of the larger giant cells accompanied by an increase in the smaller giant cells and spindle cells, cellular irregularity, and numerous mitotic figures. No osteogenic activity was detected. Metastases were not found. Protracted roentgen therapy was administered, but the outcome is not indicated.

Various forms of sarcoma (the classification utilized by Geschickter and Copeland is followed) occurred in 5 patients. A thirteen-year-old boy had a primary chondromyxosarcoma of the sacrum which in the roentgenogram appeared as a destructive lesion invading the soft parts. Radiotherapy had no appreciable effect and the patient died three months later.

Secondary chondrosarcoma was observed in 2 patients, a woman of twenty-three years and a man of thirty-five. The primary tumor in the first case was extirpated from the crest of the ilium but recurred seven years later. The tumor, which now involved a
large portion of the pelvis, was again removed surgically. A second recurrence after three years did not respond favorably to roentgen irradiation. In the second patient a slowly growing, well differentiated tumor involving a large portion of the ilium was removed surgically. The growth was first observed five years previously as a localized mass approximately 1 cm. in diameter. A recurrence was extirpated after one month and a metastasis along the spermatic cord after six months. The patient received 550 r roentgen irradiation through several fields, but a second inoperable recurrence developed rapidly. The further course is unknown.

Two patients had osteogenic sarcoma of the osteolytic type. In the first, a man aged forty-eight, the tumor was situated in the ilium. He died before completion of roentgen therapy and autopsy disclosed metastases in the lungs and suprarenal glands. The second tumor was observed in the lower ilium of a sixty-three-year-old man. Pulmonary metastases were present and therapy was not attempted. The patient succumbed promptly.

A sacrococcygeal chordoma in a man of fifty-eight years is included in the author's series of cases. The growth produced compression signs in the rectum. Histologic sections of a biopsy specimen were characteristic. Fractional roentgen therapy was given through 3 fields of 15 X 15 cm. (180 kv., 2 mm. Cu + 1 mm. Al filter, distance 50 cm.). The dose was divided into 24 fractions and totaled 4,400 r. Eight months later the growth appeared stationary and the patient showed some signs of improvement.

Metastatic Tumors: Solitary osteoclastic or osteoblastic pelvic metastases are recorded in cases of mammary cancer, hypernephroma, undifferentiated carcinoma of unknown origin, gastric cancer, and osteogenic sarcoma of the femur and of the tibia.

Illustrative roentgenograms and photomicrographs are reproduced.

Milton J. Eisen


This is a report of a primary cylindroma in the inguinal region in a man of sixty-six years with extensive metastatic involvement of the pelvic bones of the same side. Pain was relieved by repeated irradiation [dosage not mentioned]. Radiographically the growth appeared to be stationary during a period of three years. A roentgenogram is reproduced.

Milton J. Eisen


Six cases of adamantinoma of the tibia are said to have been recorded. To these a seventh is added. The patient was a woman of twenty-four who had sprained her ankle eighteen months prior to hospital admission. Examination revealed a mass fixed to the lower third of the left tibia and roentgenograms showed a cavity, 4 cm. in length and 2.3 cm. in diameter, with its lower margin 2.5 cm. above the articular surface. The lesion was interpreted roentgenographically as a Brodie's abscess, particularly because of the sharp limitation of the borders of the cavity and the presence of the inflammatory type of periosteal thickening. Operation was undertaken and the outer wall of the mass was removed for pathologic examination, which revealed the characteristic features of adamantinoma. Wide excision was done and eight months later there was no evidence of recurrence.

Roentgenograms and photomicrographs are included. Details of the previously recorded cases are tabulated and a bibliography is appended.


A case of adamantinoma of the tibia in a man of thirty-two is recorded. This appears to be the fifth example of this tumor to be reported. The diagnosis was made by aspiration biopsy. Because of the extent of the lesion amputation was advised. It was at first refused and roentgen therapy was given, but as the tumor progressed in size
and pain increased, the patient eventually consented to the operation. The leg was amputated above the knee and a year later there was no sign of recurrence. This case closely resembles the others in the literature (See Absts. in Am. J. Cancer 15: 1881, 1931; 18: 785, 1933; 22: 233, 1934; 35: 484, 1939). All but one of the patients were men, ranging in age from eighteen to forty-six. There was in every case a distinct history of trauma, which had been definitely connected with the site of the tumor and its subsequent development.

Illustrations are included and references are appended.


Bissell and Brunschwig (J.A.M.A. 108: 1702, 1937. Abst. in Am. J. Cancer 32: 331, 1938) collected four examples of squamous epithelial cysts of the hand involving the phalanges and recorded two of their own. Reich adds a further case. In this instance there was no history of trauma.


A man of fifty-three years had a subcutaneous mass attached to the anterior portion of the seventh rib on the right side. Roentgen examination showed this to be a non-destructive lesion within the bone. The patient died three weeks later of pneumonia and autopsy revealed the rib tumor to be a plasma-cell myeloma. Smaller myelomatous foci, not evident roentgenographically, were found in the skull and the sternum. Roentgenograms are reproduced.


This is a case report, with autopsy record, of extensive skeletal metastases of a cancer of the right breast, first observed in the right humerus five and three-quarter years after radical mastectomy. The neoplastic process gradually involved the entire humerus, producing complete destruction of the bone and shortening of the arm. Pain was temporarily alleviated by irradiation. In the succeeding years metastatic foci appeared in the bones of the forearm, clavicle, scapula, vertebrae, pelvis, bilaterally in the femur and tibia, and in the right pleura. The patient died ten and one half years after removal of the primary tumor. The irradiated and non-irradiated osteoclastic bone lesions showed evidence of regressive phenomena, connective-tissue replacement, and deposition of calcium. A photograph of the patient, roentgenograms, and a photomicrograph are reproduced.


A woman of forty-two years had generalized osteitis fibrosa with lesions in the humerus and femur bilaterally, pelvis, ribs and vertebral column, and a parathyroid adenoma, verified at necropsy. Skull changes were limited to simple thickening of the compacta, without cyst formation, and resembled the lesions of Paget's disease. A second case of osteitis fibrosa with involvement of the vertebral column is mentioned briefly. Roentgenograms and photographs of the spine are reproduced.


This is a report of a case of generalized osteitis fibrosa cystica in a woman aged twenty-five years without apparent amelioration following excision of a parathyroid
adenoma measuring 1.5 × 1.1 cm. Two roentgenograms illustrating the skeletal changes, a photograph of the extirpated mass and 2 photomicrographs are reproduced.

In a supplementary note (p. 372) the author states that this case was the subject of a previous communication by Pero (Riv. di pat. nerv. 47: 183, 1936). At that time a diagnosis was made of Cushing's disease associated with osteitis fibrosa cystica, since the patient had trunk adiposity, abdominal striae, hypogenitalism, and a tendency to polycythemia. Grasso remarks, however, that the patient, when observed by him approximately two years later, presented no evidence of pituitary basophilism. She died four months after excision of the parathyroid adenoma, but a necropsy was not available.


A case of von Recklinghausen's disease is recorded in which a diagnosis of parathyroid adenoma was made on the basis of the roentgen picture and the finding of high serum calcium and low serum phosphorus. The tumor was removed. Since the serum calcium and phosphorus remained at abnormal levels, roentgen therapy was instituted, but without effect. The patient died of renal disease and autopsy revealed two more parathyroid adenomas which had been partially obscured by overlying thyroid tissue.


Three cases are recorded of xanthomatous bone lesions, all responding favorably to roentgen therapy. The author does not accept a neoplastic origin for these lesions but regards them as attributable to a disturbance of cholesterin metabolism. Roentgenograms are reproduced.


Twelve cases of multiple benign osteoma, chondroma, and osteochondroma of the large joints are described. The elbow was involved in 6 instances, the knee in 5, and the hip in 1. The dominant symptom is chronic low-grade joint pain and the clinical diagnosis is generally arthritis. A history of previous injury is frequently elicited. Roentgenographically the lesions, which involve the articular surface or ramifications of the joint capsule, appear as multiple well defined excrescences or enlargements in the region of the joints. They vary in size from several millimeters to large confluent masses covering the whole synovial membrane. The author considers the lesions to be of neoplastic nature. Conservative symptomatic therapy is suggested except in the unusual case of acute symptoms of incarceration or strangulation of an articular growth, when surgery is indicated. Roentgenograms are reproduced.

Milton J. Eisen

THE LEUKEMIAS, HODGKIN’S DISEASE, LYMPHADENOMA


This study of cutaneous tumors in leukemia and lymphoma is based upon 189 cases, of which 167 were taken from the literature and 22 from the author's own observations. She bases the diagnosis of leukemia on the presence of "circulating metastases as manifested by a relative or an absolute increase in circulating cells." All other tumors arising primarily in lymphoid tissue (except the rare primary endothelioma of the lymph nodes, of which no examples are included) are grouped under the generic term lymphoma.

There is no clear-cut distinction between the non-specific skin manifestations and the true tumors of leukemia and lymphoma. The two conditions may merge imperceptibly, and there is good reason for the hypothesis that many if not all the cutaneous manifestations result from tumor cells.
Leukemic tumors in the skin vary from a few millimeters to several centimeters in diameter and as a rule occur in large numbers. They usually start as small papules, which increase slowly in size and number. The color changes from bright red to deep purple to dusky brown. Though the tumors are usually considered of grave prognostic import, some of them occur a year or more before death. They have no characteristics which would distinguish them from other metastatic cutaneous tumors.

A special form of infiltration is seen in leukemia cutis universalis, which is an exaggerated generalized form of erythroderma due to the infiltration of tumor cells. It occurs most often in lymphatic leukemia and is characterized by a thickening of the entire skin, accentuating all body folds and producing a leonine countenance.

The cutaneous tumors accompanying lymphoma or lymphosarcoma are more apt to be large, ulcerated and fungating, and are somewhat less stable than the tumors accompanying leukemia but are relatively infrequent. Diffuse infiltration and plaques occur, as well as discrete tumors. The diffuse infiltration is sometimes similar to that seen in association with leukemia cutis universalis but never as extensive. The color of the tumor changes from bright red to dusky purple and then to deep brown. The early cutaneous lesions may be macular or papular and are not distinguishable from those associated with leukemia. Cutaneous tumors of the lymphoma type are more prone to run a chronic course than those of leukemia.

The author has also reviewed 45 reported cases of mycosis fungoides and concludes that this is a manifestation of leukemia or lymphoma in which cutaneous tumors predominate.

The cutaneous tumors of leukemia are probably metastatic, the result of chance location of diffusely disseminating tumor cells. There is evidence, however, that they may originate in the skin, though they are rarely confined to it.

The microscopic features are described, but no photomicrographs are included. References are appended.


A lacrimal sac extirpated from a patient with bilateral dacryocystitis was examined histologically. The wall was found to be infiltrated by cells resembling lymphocytes and lymphoblasts and a diagnosis of leukemia was suggested. This was borne out by the blood picture, which showed a white cell count of 52,900, subsequently rising to 72,800, with 90 per cent lymphocytes. A photomicrograph is included and references are appended.


A case of chronic lymphatic leukemia is recorded with lymphocytic infiltration of the bulbar conjunctiva and cornea. Two rather unsatisfactory photomicrographs are included and four references are appended.


The author's study on isoagglutinins in the blood included 38 leukemia patients, representing various types of the disease. The titers of the isoagglutinins in the majority of the cases of chronic leukemia were considerably below the average titers in non-leukemic patients of the same blood groups and ages. There was no difference between the lymphatic and myelogenous forms of the disease. In acute leukemias the titers were considerably higher, almost approaching the normal. Normal or even slightly elevated titers were observed in patients with chronic leukemias following intensive x-ray therapy. References are appended.
Among 251 patients with Hodgkin's disease seen in the Presbyterian Hospital and Vanderbilt Clinic between 1918 and 1935 there were 77 with mediastinal involvement. Of these, 19 had no associated lymphadenopathy elsewhere at the time of the original diagnosis, though within an average period of eighteen months enlargement of the peripheral nodes became apparent. Treatment was for the most part by roentgen rays, from 50 to 100 per field, repeated at daily intervals, alternating over anterior and posterior areas. The total dose to each of the two fields was 1000–1200 and in some cases more.

Sixty-five patients were followed, of whom 38 were considered to have received adequate roentgen therapy. In this group the average survival period was five years and four months. Eight of this group were alive at the time of the report. Twenty other patients received roentgen therapy but in inadequate amount and in this group the average survival was three years and three months. The 7 patients who received no treatment lived on an average of three years and one month. The more generalized the disease the shorter was the survival period. Bone involvement, pulmonary and pleural complications, and enlargement of the liver were associated with a rapid course. Ten patients of the series had herpes zoster.

References are appended.


Two cases of Hodgkin's disease involving the gastro-intestinal tract are recorded. In the first a mass in the posterior wall of the stomach was resected and a diagnosis of large round-cell sarcoma was made. Death occurred six months later and autopsy revealed a typical picture of Hodgkin's lymphogranuloma of the stomach, perigastric lymph nodes, and liver. Reviewing the operative specimen, the author believes that a correct diagnosis should have been made from the limitation of the infiltration to the submucosa and the polymorphism of the cell types.

In the second case the clinical and roentgen features suggested tuberculous peritonitis, lymphosarcoma, or non-specific granulomatous enteritis. Before exploration could be carried out the patient died and autopsy showed Hodgkin's granuloma of the jejunum with caseating mesenteric lymph nodes.

On the basis of 75 cases of gastro-intestinal lymphogranulomatosis four clinical types are recognized: (a) gastric carcinoma, (b) gastric ulcer, (c) enterocolitis, (d) obstruction of the bowel. Superficial glandular enlargement, enlargement of the liver and spleen and hematologic changes, are usually absent. The microscopic changes may at times be difficult to differentiate from those of lymphosarcoma, and biopsy material is not always sufficient for diagnosis.

Two pages of references are included. Roentgenograms for each of the two cases reported are reproduced.


By x-ray bath the author means wide-field regional irradiation, a form of treatment which he has found of value for cases of lymphosarcoma in the late stages, i.e., with multiple lesions, visceral involvement, and advancing cachexia, as well as for other radiosensitive lesions. Using 200 kv. and a Thoraeus filter, 4 oblique overlapping fields are irradiated, beginning with small doses which are gradually increased. The patient is carefully protected from radiation above the upper limit and below the lower limit of the fields to be exposed, but no lateral protection is used, the whole section of the patient being exposed to the beam in each case.

Three types of bath are described. In the thoracic bath the entire thorax, axilla, and cervical node areas are exposed to the radiation: The treatment is begun with 35 surface to one field. The fields are treated in turn day by day, and the dosage is
ABSTRACTS

cautiously increased until the patient is receiving as much as 200 r to this field in a day. Blood counts are carried out about every five days, and in the absence of contraindications, treatment is continued until a dose of 1,000 r has been applied to each field over a period of about a month.

In the abdominal bath, the upper limit of irradiation is at the level of the ensiform cartilage, and the field is carried down to include the inguinal node. Treatment is begun with 25 surface r, and may be gradually increased to about 150 surface r. The total dosage is, as in the thoracic bath, about 1,000 r to each field.

In the trunk bath, the field extends from the mandible down to below the inguinal node areas, the limbs being carefully protected. Treatment is begun with 20 surface r doses, and increased to as much as 125 surface r daily. The total dosage is about 600 to 750 surface r to each field.

The thoracic and abdominal baths are attended by few casualties and may be used as a routine. The trunk bath, on the other hand, is not without danger and is suitable only for selected cases. Its results, however, are striking. Of 7 consecutive patients (5 with advanced lymphadenoma, 1 with seminoma, and 1 with a radiosensitive ovarian tumor) treated in 1932–34, 3 were alive and well at the time of the report. Two deaths were probably due to the treatment. One illustrative case is recorded.

STATISTICS


An attempt was made to determine the accuracy of the Massachusetts cancer death records by interviewing the families of the patients, the physicians consulted, and the social workers familiar with the cases. For this study a representative sample was chosen, constituting about 33 per cent of the total of 6153 deaths recorded for 1932. It appears from this study that in Massachusetts identification of cancer deaths is sufficiently accurate to warrant statistical compilations on age, sex, nativity, and the disease as a whole. There is, however, a considerable error in exact location of cancer and a large error in duration of disease. On the basis of various autopsy series the author estimates missed cases as 11 per cent and cases erroneously diagnosed as cancer as 5 per cent. If the difference, 6 per cent, be added to the number of recorded deaths in Massachusetts, a figure is obtained which should closely approximate the actual cancer mortality.

PUBLIC HEALTH


Ewing discusses the four types of cancer patient seen by the physician, those with obvious cancer, those with obscure cancer, those with precancerous lesions, and those with wholly atypical cancer. He concludes that the diagnosis and treatment of cancer is a very difficult and exacting specialty. While the general practitioner occupies the most responsible position in regard to cancer diagnosis, without wide experience he is unable to meet the demands made upon him and he requires the help of specialists in many fields.

The recognition of these difficulties has in recent years led to a world-wide movement toward concentration and specialization in treatment of cancer. Many countries are building large cancer institutes, organizing special cancer services in large hospitals, and establishing group clinics in smaller communities. The control of tuberculosis took the same course beginning about twenty-five years ago and there was no definite advance made with this disease until the work became specialized in all departments. It seems highly probable that the same course of events will take place with cancer and that, when the movement has made substantial progress, we shall begin to see a reduction in the death rate from neoplastic diseases.

This is an outline of the Massachusetts cancer program as reorganized in 1934. The five main features of this program are (1) a tumor diagnostic service through which any physician or hospital may have suspected tissue examined to determine the presence or absence of cancer; (2) a state hospital for the treatment of cancer; (3) diagnostic clinics throughout the state, administered by committees appointed by local medical organizations; (4) education of both the physician and layman; (5) statistical research.
