Clinical and Pathological Reports


Since the malignant change, widely regarded as a mutation, is a fortuitous and rare event that cannot be foreseen, hardly any tissue change is an invariable antecedent of cancer. The word "precancerous" is much too commonly used, and should be limited strictly to such lesions, of which there are only two in man—xeroderma pigmentosum and familial, diffuse, intestinal polyposis.

Other lesions, such as hyperkeratosis, leukoplakia, gastric ulcer, cholecystitis with stones, moles, and so on, may terminate in cancer but do not necessarily do so. It is especially unjustifiable to call mastopathia cystica precancerous, for the author has seen cancer arise rather more often in an apparently normal breast than in one that was involved by the so-called chronic mastitis.

Doubtful lesions should be removed, in whole or in part, and submitted to a pathologist of the widest possible experience, who should under no circumstances delegate his enormous responsibility to an inexperienced assistant.


Two sisters aged 34 and 32 underwent hysterectomy for endometrial carcinoma, while a third sister underwent hysterectomy "for a benign condition." Their mother died of carcinoma of the rectum at 68. The author remarks of cancer of the endometrium that "it is surprising how many observers find the average age within the narrow limits of 56 to 58 years."—E. L. K.

Radiation—Diagnosis and Therapy


A general discussion. The author points out that the x-ray can demonstrate most early bronchogenic carcinomas if the condition is kept in mind and searched for. If immediate bronchoscopy is done in all suspicious cases, and if exploratory thoracotomy, performed early as a diagnostic procedure, is followed by a pneumonectomy in operable cases, the mortality rate from bronchogenic carcinoma can be lowered. X-ray therapy is of great palliative value but should not be used until the lesion is proved to be inoperable.—J. L. M.


The methods that may be employed for fluoroscopic detection of posterior-wall tumor include observation of the filling process and of the peristalsis of the curvatures as
well as palpatory pressure exercised during gastric filling and upon the filled stomach. The author discusses the fluoroscopic signs of posterior-wall tumors.—M. E. H.


The author emphasizes the value and importance of the roentgenologic examination in tumefactive lesions of the colon. The limitations of the examination in the presence of infection are described.

One hundred consecutive tumefactive lesions of the colon observed roentgenologically at the Scott and White Clinic in the last 4 years are reviewed. Of these, 86 were primary carcinomas, 10 were inflammatory granulomas, and 4 were malignant lesions of the abdomen and pelvis secondarily involving the colon. Of the 86 primary carcinomas of the colon, the roentgenologic characteristics of carcinoma were visualized so that a definite diagnosis of carcinoma was made in 76. Of these 76 carcinomas, 19 were perforated, and 13 were completely obstructive. In the remaining 10 carcinomas the roentgenologic characteristics were not definitely elicited. Six were of the ileocecal region complicated by perforation and abscess formation. Of the 26 perforated carcinomas with inflammatory manifestations, the malignant disease had remained sufficiently localized to justify extirpation of the growth in only 7 instances, while in the remaining 60 nonperforated carcinomas, extirpation was possible in 41.—J. L. M.


The important features of roentgen diagnosis of carcinoma of the colon are listed. Except in selected cases, surgery rather than irradiation is strongly advised.—J. L. M.


Roentgen examinations are of definite value for ascertaining the nature or origin of practically all tumorous masses of questionable origin in the abdomen. The closest cooperation between the clinician and roentgenologist is needed to interpret the symptoms, signs, and laboratory findings, not only to arrive at a correct diagnosis but also to determine prognosis and therapy.—M. E. H.

Wann is die Röntgentherapie des Krebses indiziert und was ist von ihr zu erwarten? [When is Roentgentherapy Indicated in Cancer and What is to be Expected of It?] *Lüben, M.* Schweiz. med. Wochenschr., 72:1237-1242, 1942.

The first half of the question is answered by the statement that roentgentherapy is always indicated for inoperable neoplasms. All operable cancers, with the exception of those of the skin, must be treated by surgery.

As for the second half, statistics from several countries suggest that by and large, about 12% of permanent cures may be expected.

The author enthusiastically recommends postoperative raying, particularly for cancer of the breast, and closes with a short discussion of the results of roentgentherapy for tumors at different sites.—W. H. W.


A general discussion. The author believes that at present radium is not being used to the full extent of its proved value in the treatment of malignant neoplastic diseases.—J. L. M.


Radiation therapy when too often repeated and improperly employed may cause untoward damage to the skin. Destructive changes or malignant transformation may occur even after several years have elapsed. X-ray therapy for cosmetic epilation of superfluous hair is fraught with danger and should not be used. In the case reported, epithelioma occurred 15 years after excessive repeated doses of unfiltered x-rays had been administered by the Tricho system for removal of superfluous hair on the face.—J. L. M.


Two hundred and ninety patients with cancer of mouth, pharynx, and larynx were divided into 5 groups and treated by different technics—one by means of radium, the others by different types of x-ray series. Each technic is presented in detail, with one case report and comments. The conclusion is reached that a so-called “concentration method” of large daily doses over a treatment period of 10 to 18 days is most valuable. By this method, the results in radioresistant forms of cancer, particularly those in the larynx, have been definitely improved. A radiotherapeutic test is offered for borderline cases in which the decision must be made between radiotherapy and laryngeotomy.—E. H. Q.


Concentration radiotherapy has proved to be the most effective form of irradiation for intrinsic squamous carcinoma of the larynx. The percentage of cures is dependent on the extent of the lesion and the efficiency of the treatment. The most significant result of this research is the eradication, by means of an improved method of radiotherapy, of a group of intrinsic squamous carcinomas of the larynx, so advanced as to have required total laryngectomy and hitherto generally regarded as radioresistant and incurable by irradiation.—M. E. H.


Of 36 cases of cancer of the larynx treated by irradiation between 1931 and 1937, the lesions were intrinsic...
in 64%, and extrinsic in 36%. Intrinsic cancer is predominantly squamous cell grade II, extrinsic usually grade III or IV. The first is radiosensitive when limited to the intrinsic larynx. All were treated with 180 kv. x-rays filtered by 2.0 mm. Cu. Details of dosage technic and tumor doses delivered are given. Complications of radiation treatment included skin and mucous membrane reaction, dyspnea, dysphagia, and (rarely) radiation necrosis. Of the 23 patients with intrinsic cancer, 13 have been free of disease 5 years or more; 9 died of the disease, 1 died of other causes with no evidence of cancer. Of the 13 patients with extrinsic cancer, 9 died of the disease, 3 have been well for 5 years or more. In the group with intrinsic cancer 4 patients had recurrences; 2 of these are alive and with no evidence of disease following further radiation therapy. Of the 9 who died with extrinsic cancer, 6 had metastases on admission.—E. H. Q.


Detailed reports are given of 4 cases of bronchial cancer, histologically proved, treated by x-ray therapy with good results.—E. H. Q.


This is an analysis of 69 cases treated in the Wisconsin General Hospital from 1933 to 1943. The majority of the tumors were of the squamous cell variety. Few patients survived for 5 years, but weight gain and a transient sense of well-being resulted from radiation therapy given in 2 series 3 months apart. Three patients are described in detail.—E. E. S.


A study of results of treatment of thoracic esophageal carcinoma indicates that 200 kv. therapy is only palliative and that some other type of treatment is to be sought for curative measures. The authors’ experience with 800 kv. therapy includes only 5 cases in the past 4½ years. No end results can be reported as yet, but a discussion of treatment is given. Greater depth doses can be administered with the higher voltage than with 200 kv., the treatment is better withstood by the patient, and it is hoped that end results will improve. No patient is treated if there is metastasis or if there is not a reasonable hope of palliation or cure.—R. E. S.


Four cases of Wilms’ tumor are presented, 1 of which was treated by surgery and postoperative radiation, while the remaining 3 had preoperative irradiation, nephrectomy, and postoperative irradiation. The first patient died after 7 months, while the remaining 3 are living 4 years and 9 months, 2 years, and 7 months after treatment. The authors therefore recommend preoperative and postoperative irradiation, with operation in 4 to 6 weeks following the first series.—R. E. S.


Seventy-eight instances of carcinoma of the cervix occurring in cases of procidentia were found in the literature, an incidence of about 0.14%. A case is added that occurred in an 81 year old woman treated first by external radiation followed by radium. A depth dose of 4,860 r was delivered in 26 days to the mid-cervix, and a total dose of 3,500 mgm./hr. of radium was added. The procidentia was completely relieved, and the patient is free of disease 14 months later.—R. E. S.


A case report with discussion.—J. L. M.


A brief discussion. Four case histories are presented.—J. L. M.


The treatment of osteogenic sarcoma is far from satisfactory in the majority of cases. In an effort to improve results, preoperative irradiation has been tried, multiple ports and large total doses to the point of radiation necrosis being used. The delay in amputation does not increase the likelihood of metastasis. Preliminary studies are encouraging, though end results are not yet available.—R. E. S.


Three theories concerning the way radiation acts on metastasis are as follows: (1) by action on the associated nonspecific inflammatory reaction, (2) action on the malignant process itself, or (3) a non-identified action on nerves. Diminution of symptoms following x-ray may come on within 5 days, although relief usually takes somewhat longer. Apparently the first effects are nonspecific, and later there is an effect on the tumor cells themselves. There are two types of patients with metastasis. In one group are those who are debilitated and cachectic and as a rule are not eligible for x-ray treatment since it only increases the discomfort of their last days. Those in the second group, in whom the primary symptom is pain, should be given roentgen therapy since it may be followed by regression of disease, alleviation of pain, improvement of the general condition, and prolongation of life.—R. E. S.

Of a group of 200 patients treated at the Mayo Clinic from 1925 to 1934, 41 with spinal or pelvic metastases had complete histological, clinical, and roentgenographic studies. Analysis of these 41 cases showed that bone metastases appeared earlier the higher the grade of malignancy of the tumor, the younger the patient, and the greater the degree of axillary metastasis found at operation. Grade of malignancy had no relation to location or number of metastases, roentgenographic appearance of bone lesions, or calcification following x-ray treatment. The time elapsing between onset of bone symptoms and beginning of treatment was important; 35 of 38 patients coming to treatment within 10 months obtained relief in some degree, those coming later received none. Palliation is all that can be expected of roentgen treatment, but there was undoubted prolongation of life in certain cases.—E. H. Q.

Skin and Subcutaneous Tissues


Case report.—W. A. B.


The structure of a series of early, localized squamous cell carcinomas of human skin is described, including the dermal as well as the epidermal changes.

The structure of these growths is incompatible with a strict unicentric view regarding their origin, but shows instead that each has arisen by spreading cancerization of a field of epidermis. Such cancerization usually commences from a single central focus, but several initial foci may be present.

The precancerous state of an area of skin includes significant dermal changes, especially in the subepithelial elastic tissue, and invasion of the dermis by the cancerous epithelium probably commences at points of greatest damage of the dermal elastic.

Progressive neoplasia in a field of tissue does not imply the passage of any carcinogenic stimulus from cell to cell, but is merely the progressive response of an area of epithelium to the same original stimuli, a response graded according to the gradients of the effective stimulation.—Author's summary.

Nervous System


A case report. The slow growth of the tumor was due to its type and location, the extensive, radical removal of bone at the first operation, and the postoperative roentgeno-

therapy. The series of complications that followed the removal of the recurrent tumor are discussed.—M. E. H.


Case report and a discussion of the surgical management of multiple meningiomas.—M. E. H.


A report of a case in which fever was present for 8 weeks as the chief manifestation of a meningioma of the sphenoid ridge. The importance of ophthalmoscopic examination as a part of the diagnostic armamentarium of the internist is shown.—J. L. M.


This purports to be the fifth reported case of extracranial metastasis of a malignant meningial tumor. No clinical data are given. Three tumor nodules were found in the pleura, but the exact location is not stated; a single tumor mass was situated in the meninges of the right occipitoparietal region. All tumors are said to have had the same histological appearance. Photographs of the cells forming the meningial tumor alone are included, and the description states that collagenous tissue was sometimes abundant. No proof is offered that the cerebral rather than a pleural mass represented the primary tumor.—E. E. S.


A case report.—J. L. M.

Eye

Treatment of Retinoblastoma. Radiation Therapy Supplemen

Treatment of retinoblastoma by surgery alone gives a poor survival rate. When there is bilateral involvement, if surgical treatment saves the patient's life it condemns him to total blindness. In this series of 20 cases, half the tumors were bilateral. Fifteen patients received radiation therapy supplementing surgery, and 7 of these are living. Because of the frequency of extension of the tumor along the optic nerve, routine implantation of radium adjacent to the optic nerve stump is considered logical. Radium implantation of the second eye when there is bilateral involvement has been used in the earlier cases, but the use of external x-ray therapy is now considered more satisfactory.—R. E. S.

Female Genital Tract


Case report.—W. A. B.
Operative Behandlung des Ovarialkarzinoms. [Operative Treatment of Ovarian Carcinoma.]
Every ovarian tumor should be extirpated because of the probability that it is already malignant, or will ultimately become so.—W. H. W.


The tumor developed in a 17 months old infant, the signs and symptoms simulating those of acute appendicitis. There was uneventful recovery following resection of the tumor.—M. E. H.

Case report with 5 figures.—J. G. K.

Case report.—J. G. K.

A case is reported of adrenal-like ovarian tumor associated with Cushings syndrome. Surgical removal of the tumor resulted in regression of most of the signs and symptoms. Three years after the operation the patient was in good health. Data from 13 similar cases collected from the literature are tabulated. The theory that these tumors originate from adrenal cortical rests seems a logical one to the authors, although other explanations have not been ruled out.—A. K.

The distortions in the blood vessels of the uterus caused by myomatous tumors and the intrinsic vessels of the tumors themselves were studied by anatomical methods. The view that most myomas contain a mass of proliferating arteries but few or no veins was confirmed. A rich capillary bed emptying toward the periphery of the tumor probably exists. No evidence of blood entering and leaving a myoma by arterial channels was found. Free arteriovenous anastomoses were encountered 4 times in 60 specimens but probably were in tumors injured at operation. Even overinjection did not fill lymphatics in or around myomas.—A. K.

The most important factor in improving the results of treatment for carcinoma of the corpus will be the shortening of the interval between the appearance of the first symptom and the administration of treatment. This interval is still discouragingly great. Of the 201 cases here studied, one-third of the patients had symptoms for more than a year, and half of them for more than 6 months before the first visit to a physician.
The best treatment for carcinoma of the corpus is a combination of radium, x-ray, and operation. Room for improvement lies in the technic of radium application and in the selection of the order in which the three therapies shall be given.—J. L. M.

A brief review of the literature and a discussion of the criteria for deciding whether a carcinoma originates in a benign endometrial polyp. A case report is presented with photomicrographs of a polyp showing typical adenocarcinoma.—J. L. M.

In spite of all instruction 60% of the patients come too late for care by either surgery or radiotherapy. Hence cancer campaigns must be intensified (radio).
Practitioners are urged to submit every suspicious case to the most searching examination (biopsy), and not to prescribe ergot for a bleeding woman and send her away without an examination.
As about 25% of women with carcinoma of the cervix do not bleed from it, it is highly desirable that every woman over 25 be examined on principle 3 or 4 times a year.—W. H. W.

The histological findings in 50 women were carefully compared with the clinical and colposcopic findings, and the patients watched for years thereafter. The author reaches the following conclusions: Leukoplakia is a symptom, not a diagnosis, and just as little a histologically definable entity. It appears whenever light is reflected from a thickened horny layer through which the red of the blood vessels in the connective tissue papillae no longer shows.
Ten years observation does not support the dictum that leukoplakia leads inevitably to carcinoma. Leukoplakia is sometimes already carcinoma, but not necessarily so, and may never terminate in carcinoma. It follows, therefore, that not every leukoplakia of the cervix justifies amputa-
tion, and that only biopsy is capable of furnishing a conclusive diagnosis.—W. H. W.


Colposcopy discloses early changes in the cervical epithelium, but by itself can never replace biopsy. Simple amputation of the cervix may not be adequate even for early carcinomas as a wholly superficial one may creep upward along the cervical canal.

In general the writer prefers radiation for the favorable and the inoperable cases, and total vaginal extirpation for the intermediate group, though admitting that in exceptionally skillful hands the results of radiation are almost or quite as good.—W. H. W.


Of 137 women with carcinoma of the cervix, 130 were treated: with combined radium and roentgen therapy (109), with surgery and postoperative radiation (14), or with surgery alone (7). For various reasons 7 remained untreated.

Though in most of the cases the carcinoma was inoperable when first seen, at least a 5 year cure was achieved in 40.8%.

The author emphasizes the fact that cancer of the cervix is not necessarily a disease of advanced age, for many of his patients were between 20 and 50 years old.

Contrary to popular belief the prognosis was no worse in the younger women than in the older.—W. H. W.


Less than 1% of all malignant growths in women are primary in the vaginal wall. In the 2 cases reported here, much scar tissue had been left in the vaginal walls after excessive trauma at childbirth.—J. L. M.

MAL E GENITAL TRACT


This is a comprehensive article written from the pathologist’s viewpoint. Seven hundred and eighty-two prostates obtained at autopsy and 31 organs obtained from operations were examined by step sections not over 4 mm. in thickness. Forty-seven other operative specimens were studied with selected sections, and 1 prostate was cut in full serial section.

A review of the literature shows that the incidence of prostatic hypertrophy at autopsy increases progressively with age, but the frequency of patients requiring surgery is maximal in the seventh decade. The author wonders if the destruction of the internal sphincter is not the main cause of beneficial results from prostatectomy rather than the bulk of tissue removed. Marital state and sexual drive can not clearly be associated with the disease. The Chinese are less affected than members of the white or black races. The incidence of the disease does not vary with the varying frequency of goiter as reported from various cities here and in Europe. Anthropometric studies on patients with prostatic hypertrophy are urgently needed.

On the basis of his studies the author concludes that the first histologically demonstrable change is a hyperplasia of the stroma. Rarely is epithelial hyperplasia primary. The perirectal tissue is most commonly involved. The anterior and posterior lobes are only rarely involved. The cell in hypertrophy has a relative decrease in secratory activity while the stroma shows a relative increase in muscle and absence of elastic tissue. Lymphoid tissue does occur in the prostate and is often mistaken as indicative of inflammation. Selective arteriosclerosis as a cause of the condition could not be demonstrated. Inflammation is not the cause of benign hypertrophy. Carcinoma only rarely develops in a nodule of benign hypertrophy. Surgical specimens are valueless for the study of the relation of the origin of benign and malignant conditions because the whole gland is not available. Recurrence after operation may be due to growth of nodules not removed or to development of new nodules. Thirty text figures and an extensive bibliography are included.—V. F. M.


The goal of prostatectomy is the restoration of normal micturition. By none of the three surgical approaches, suprapubic, perineal, or transurethral, is the entire prostate gland removed. Two cases are presented in detail, and 5 cases are cited from the records of the Mayo Clinic, to illustrate the fact that carcinoma can appear many years after suprapubic or perineal prostatectomy. Among 8 additional cases recorded at the Mayo Clinic, it appeared that a diagnosis of carcinoma was made after an average of 16 years subsequent to suprapubic prostatectomy.—J. L. M.


Bilateral orchiectomy plus stilbestrol therapy caused a marked regression of metastases in cervical and inguinal nodes. Four months after orchiectomy a small inguinal node was removed for follow-up biopsy; it was found to contain chiefly fibrous tissue, but some tumor tissue was still present. The patient was clinically well at the end of 7 months and had gained 20 pounds.—V. F. M.


Case report.—W. A. B.

Twenty-four patients with prostatic carcinoma were treated with diethylstilbestrol for from 6 to 34 months. Medication consisted in most instances of 3 mgm. of the estrogen daily, taken orally in 3 divided doses. In addition to endocrine treatment transurethral resection was carried out in 19 of the patients, suprapubic cystotomy in 1 patient. Clinical evidence of improvement was noted in 98% of the cases; 17% received no benefit; 25% of the patients died during the course of treatment. As judged by rectal palpation, prostatic tissue became softer and smaller in many of the cases that were improved under estrogen therapy, but in no instance was a normal status believed to have been obtained. No untoward side-effects of treatment were noted.

The results obtained with estrogenic treatment of 33 men with benign hypertrophy of the prostate were unsatisfactory.--J. B. H.


It is possible by reducing the amount or the activity of circulating androgens to control to some degree—often a considerable degree—far advanced prostatic cancer in large numbers of patients.—M. E. H.


The author presents a review of his experience in this field, which began at the turn of the century. Prostatism is so complex in its symptoms and so varied in its pathology that it can be handled satisfactorily only by careful selection of the operative procedures best suited to obtain a radical cure. The exclusive use of transurethral resection for all types of prostatic obstruction, even the very large and the malignant, is in the opinion of the author, indefensible.—J. L. M.

Discussion: Treatment of Carcinoma of Prostate.


Mr. Clifford Morson dealt with the surgical treatment of carcinoma of the prostate. "The so-called radical operations are excision of the whole prostate and bladder base by either (a) the suprapubic route or (b) the perineal. . . . The suprapubic and perineal excisions of cancer of the prostate are, in my opinion, unjustifiable operations." No patient in his series of radical operations, and of cases treated with radium by every known method, survived longer than 5 years, which is the expectation of life in untreated cases. "I have nothing but condemnation for castration. All it does is to cause atrophy of the seminal vesicles and normal prostatic tissue. There is no scientific evidence that a single cancer cell is destroyed. Temporary improvement in micturition is brought about by the atrophy of normal tissue in the region of the prostatic urethra. . . . My considered opinion of the place of surgery in the treatment of this disease is that it should only be adopted for the relief of urinary obstruction. The choice lies between cystotomy, transurethral resection and ureteric transplantation into the bowel." Whatever treatment was applied to the primary growth, very few patients survived longer than 3 years.

He had seen a number of patients who had become symptom-free within a week of the beginning of treatment with stilbestrol, with absorption of the major part of the primary growth. The improvement was not always maintained. He advised in all cases, whether the diagnosis of carcinoma was or was not certain, immediate treatment with stilbestrol (3 mgm. every 4 hours) until the patient was symptom-free, when the dose could be reduced.

Professor E. C. Dorais summarized the history of (1) the treatment of carcinoma of the prostate by estrogens and (2) of the investigation of serum acid phosphatase. Between 5 and 10 units of serum acid phosphatase give a strong suspicion of carcinoma of the prostate, whilst over 10 is diagnostic. Experience has shown that higher figures are obtained in patients with metastases. Treatment with stilbestrol may be begun with 1 mgm. 3 times a day "increasing to 5 or more until the symptoms come under control. Alternatively, one can watch the progress of the treatment by the estimation of the acid serum phosphatase. Once this has been reduced to normal limits, we have been surprised at the small amount of stilboestrol required to maintain the patient symptom-free." We have not yet comparative experience of dienestrol, hexestrol, and stilbestrol. "Finally, it cannot be too strongly emphasized that no single member of the workers in this field has ever claimed that this treatment represents a cure. It would appear that a very large number of cases can be rendered symptom-free by the administration of synthetic oestrogens; as to how long this can continue it is not possible to say although cases have been maintained in perfect health for periods of over three years."

Dr. W. M. Levitt gave a summary of the radiotherapeutic treatment and of the mode of metastatic spread, of cancer of the prostate. Forty to 50 per cent of cases without known metastases improve considerably under radiotherapy. The symptoms improve until frequency and dysuria are completely, or almost completely, relieved; in many cases it would be impossible to say on rectal examination that the patient had ever had a carcinoma of the prostate. But the great majority of these gratifying results are not lasting. "In a fair proportion of cases of carcinoma of the prostate the growth can, by irradiation, be so severely damaged without undue damage to the healthy tissues and without undue risk to the patient as to lead to its apparent total regression and to paralyse its growth for a variable period." X-radiation does not act by way of castration. The speaker suggested a thorough trial of combined but not simultaneous x-ray and estrogen therapy. Persons taking estrogens appear to have a lower tolerance to x-rays.

Lieut.-Colonel W. L. Harnett had compared the expectation of life in cases of cancer of the prostate under various treatments with that of a normal population of the same age. The mean duration of life in the group treated by prostatectomy was 77% of that expected; in
those treated by “palliative methods” or by radiotherapy this percentage was 55 and in those untreated, 33.

Mr. Kenneth Walker had found subcapsular castration of great benefit in some cases.

Mr. Terence Millin had found the immediate results dramatic in about 90% of 92 cases treated by subcapsular orchidectomy, stilbestrol, or both. Only a small proportion of bony metastases disappeared. In a remarkable case numerous metastases in the pelvis disappeared. The dose of stilbestrol was usually 5 mgm. daily for 2 to 3 weeks and then 2 to 3 mgm. indefinitely. The treatment was not curative as deaths were now occurring in those treated for more than 2 years.

Mr. E. W. Riches had treated during the past year 24 patients with 15 to 20 mgm. of stilbestrol daily with favorable results; about one-half of the patients developed mastitis after 500 to 600 mgm. He showed radiograms indicating regression of pulmonary metastases in one case.

Mr. G. E. Vulpandze spoke of a man with metastases in the sacrum and spine, who was alive and working some years after receiving only a little x-radiation.

Mr. Hugh Donovan had treated 14 patients with encouraging results.

Mr. Kenneth Heritage had found that symptomatic relief following the use of stilbestrol was often most dramatic, and when this treatment failed, bilateral subcapsular orchidectomy had never failed to give relief.

Dr. L. R. Woodhouse Price spoke of the value of immediate frozen sections of endoscopy material and of wet-film fixation of aspiration specimens.

Mr. J. Gare had found stilbestrol (5 mgm. thrice daily) of value in about one-half of his cases.~E. L. K.


In confirmation of Kutscher and Wolbergs (Ztschr. f. physiol. Chem., 236:237-240. 1935) and Gutman and Gutman (Proc. Soc. Exper. Biol. & Med., 39:529-532. 1938) an acid phosphatase was demonstrated in the normal adult prostate and found to be increased in the blood plasma of patients suffering from carcinoma of the prostate with metastases in the bones. No such increase occurred in the absence of metastasis to bone. Normal human semen contained large amounts of the enzyme, but very little was found in the semen of a patient with eunuchoid syndrome.

In a number of cases of prostatic carcinoma with a high level of plasma acid phosphatase this returned to normal under treatment with stilbestrol.—A. H.


On microscopic examination tubercle-like formations were found in a typical testicular seminoma. Acid fast bacilli could not be found. Tuberculoid reactions have been described in ovarian dysgerminoma, a tumor with which testicular seminoma is histologically identical.—V. F. M.


A case of cavernous hemangiomia of the testis is described. The authors believe this to be the first recorded in the literature.—V. F. M.


This is a complete description of a case in which carcinoma from the stomach invaded both spermatic cords and the right epididymis. The presenting sign was a scrotal mass. Autopsy indicated the mechanism of spread to be peritoneal implantation followed by direct extension down the inguinal canals.—V. F. M.

Urinary System—Male and Female


A 7 pound scrotal tumor, histologically a neurofibrosarcoma, was removed from a patient, with a successful result over a 6 months follow-up period. The tumor was known to have been present for 6 years but had increased greatly in size during the past 12 months. Photographs of gross and microscopic specimens are included.—V. F. M.
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patient died 4½ months later with recurrence and pulmonary metastases. The authors believe the lesion originated in remnants of the Wolffian body. Eight similar cases are recorded in the literature.—V. F. M.


Forty-four instances of Wilms' tumor were observed at the Mayo Clinic between 1904 and 1940, an incidence of 1 in 25,000 patients. Twenty-nine of the tumors were in females and 15 in males. The oldest patient was 59, but the majority were 3 years of age or less. No tumors were bilateral. Involvement of the renal vein was frequent; in 4 of the 7 successfully treated cases invasion of the veins had occurred. Upon careful microscopic study, 20 of the tumors were found to contain striated muscle. Nephrectomy plus radiation is the treatment of choice. Prognosis is poor since the majority of patients die within one year, but 7 of this group of 44 survived for from 2 to 20 years. The patient who survived 20 years did not have radiation.—V. F. M.


Three instances of benign renal adenoma are described and illustrated. The finding in each case was incidental, nephrectomy having been done for hydro nephrosis, pyonephrosis, and tuberculosis respectively.—V. F. M.


Case report. Tumors of the female urethra are relatively rare, and this is the first report of a leiomyoma of this organ in the female.—M. E. H.

Oral Cavity and Upper Respiratory Tract


Of 56 patients studied, all were men; 55 cancers arose from the lower lip, one from the upper. The squamous cell carcinomas were graded according to Broders' method: grade I, 32 cases; grade II, 17 cases; grade III, 5 cases; and grade IV, no case; two cancers were not graded. Of patients with metases, 15% survived 5 years following surgical, x-ray, or radium therapy, singly or combined, and 83% of the 36 who never had metastases lived 5 years.—W. A. B.


During the last decade there has been great improvement in the treatment of cancer of the lip due to improved therapy and to the fact that patients present themselves earlier for treatment. Treatment by radium moulage yields a high percentage of successful results. Routine dissection of the neck is not justified and is unnecessary unless clinical cancer is evident in the lymph nodes. A summary of 113 cases is presented.—M. E. H.


The growths were of salivary gland type and contained epithelial cell nests and cords, and myxomatous and cartilaginous tissues. Histologically and clinically they were nonmalignant. Brief reference is made to 87 previously reported cases of mixed tumors of the lip, of which 5 arose from the lower lip.—J. G. K.


General principles. Fullest cooperation between surgeon and radiologist is to be desired.—W. H. W.

Secondary Carcinoma of the Mandible. An Analysis of Seventy-One Cases. BURGE, R. E. [University of Minnesota, Minneapolis, Minn.]. Surgery, 15:553-564. 1944.

An analysis of 71 cases. The operative mortality among 57 cases of resection of the mandible for advanced carcinoma was 17.5%. Of 47 patients who survived operation, 31.9% lived 3 years; 19.3%, 5 years; and 12.8%, 8 years.—W. A. B.


Rhinoscleroma is a chronic granuloma of the upper respiratory tract, rare in this country but not uncommonly seen in central Europe, Italy, and Egypt. Frequently cancer or tuberculosis is the initial clinical diagnosis. The case reported is illustrated with photomicrographs.—C. W.


Tumors primarily of nasal and nasopharyngeal origin are discussed. As the result of years of experience, the author has gained the distinct impression that in the treatment of these tumors, whether malignant by position or intrinsically, radical surgery has too frequently been replaced by radiation. It appears that, in so far as possible, radical removal in these difficult locations should always be undertaken regardless of cosmetic results; surgery should be supplemented by the most intelligent use of radiation for the individual case.—J. L. M.


Clinical-pathological discussion, with presentation of 17 cases.—J. G. K.


A clinical report of 15 cases (incidence about 1 case per 1,000 clinic patients) and a brief review of the sub-
ject. Papillomas are the commonest tumors of the larynx in childhood and should always be considered in the differential diagnosis of chronic hoarseness. Although histologically benign, they grow extremely rapidly and exhibit an extraordinary tendency to local recurrence. The mortality from laryngeal papilloma in children under 5 equals and possibly exceeds that of carcinoma of the larynx in adults. Recommended treatment is outlined.—C. W.

**SALIVARY GLANDS**


Report on 56 mixed tumors.—W. A. B.


A case report. Because mixed tumors of the parotid gland behave unexpectedly, the modern concepts of them are reviewed. Early complete removal would seem to prevent recurrence.—M. E. H.


Report of 9 cases. The simple enucleation of a lump from the parotid is not the procedure of choice, since the tumors tend to recur. The entire parotid gland should be removed without permanent damage to the facial nerve.—M. E. H.

**INTRATHORACIC TUMORS—LUNGS—PLEURA**


A review, one section of which deals with pneumonectomy in bronchial carcinoma.—E. L. K.


A general discussion of the diagnosis of intrathoracic tumors, with 12 case reports.—J. L. M.


There is an analysis of a series collected from the literature, of 105 patients with intrathoracic neurogenic tumors, giving location of the growth, histologic diagnosis, age and sex of patient, and operative therapy. In addition 18 patients seen by the authors are described in more detail. The tumors were situated most often in the posterior part of the chest; neurogenic growths are said to be the most common tumor in that region. A long bibliography is appended.—E. E. S.


This is a report of the successful surgical removal of a tumor weighing 4.972 gm. that had no definite point of origin either from mediastinum or thoracic wall but was densely adherent to both. Since the patient also suffered from thyrotoxicosis it was necessary to resect adenomas of the thyroid before thoracotomy was performed. The surgical risk involved is discussed, and a classification of benign intrathoracic growths is presented.—E. E. S.


Description of a case.—E. L. K.


Biopsy showed squamous cell carcinoma, which was treated by insertion of radon seeds.—E. L. K.


No one of the symptoms is pathognomonic, since many are caused by complications. Diagnosis is attempted, therefore, by roentgenological examination or by bronchoscopy, but in spite of all modern aids in a large institution the diagnosis in the author’s series of 115 cases was correct, or nearly so, in but 63%. Early diagnosis was seldom achieved.

When certain statistically unsuitable cases are omitted, only 56% of the patients lived for 6 months after appearance of the first symptoms, 27% for 1 year, and 7% for 2 years or more. One patient lived for 10 years under repeated radiations; autopsy revealed chronic pneumonia with nests of cancer cells still present.—W. H. W.
Temporary palliation was achieved by radiotherapy in 42% of the cases, in the sense that life became more bearable, but there were no cures, and the author closes with the statement that carcinoma of the lung is the worst of all carcinomas in respect to treatment.—W. H. W.


Forty-five cases of lung cancer registered in the Tumor Clinic of the Western Pennsylvania Hospital from 1936 to 1942 are reviewed for evaluation of diagnostic procedures and therapeutic results. These cases represent an incidence of roughly 2% of all malignant growths seen in the clinic. Thirty proved cases are summarized. Early diagnosis is a result of early thorough investigation of suggestive symptoms.

Chest x-ray findings are not pathognomonic of lung carcinoma but serve to focus attention on lesions demanding further study. Aspiration needle biopsy, with proper preparation and care, is a valuable diagnostic procedure in the 30% of cases not suitable for bronchoscopic biopsy.

Roentgen therapy is of definite value in producing symptomatic relief, although no appreciable increase in life expectancy is obtained.—J. L. M.


Case report.—J. G. K.


A statistical study of 260 cases of cancer of the lung, cared for at New York Hospital since 1932, is presented, with detailed data on 100 of these in which the diagnosis was confirmed histologically. The value of various diagnostic procedures is analyzed. In 62 patients coming to autopsy, the locations of metastases are tabulated. The principal clinical problem is early diagnosis. Radical surgery is the method of choice for treatment, however the results even in the group so treated are not encouraging.—E. H. Q.


Case report.—J. G. K.


Two cases of tumor of the lung discovered fortuitously at autopsy presented the appearance of intra-canalicul fibroadenoma of the breast. The authors draw an analogy between this tumor and pulmonary chondroma.—L. W. P.


There is a brief historical review. The clinical and pathologic findings in 6 patients having such tumors are presented with a study of 174 cases found in the literature. Various theories concerning pathogenesis are discussed. The greater part of the article is devoted to a summary of the clinical features of these tumors. A long list of references of case reports is included.—E. E. S.


The tumor weighed 6.8 lbs, and is said to be the largest mediastinal lipoma successfully excised from the chest cavity and reported in the literature. Contrast visualization of the thoracic blood vessels and heart showed extreme displacement. Six months after operation the mediastinum had returned to normal position, there was radiographic evidence of fibrosis and contracture in the left hemithorax, but the left lung had not re-expanded. No evidence of oxygen absorption by the left lung was obtained.—E. E. S.


A striking feature of the tumor in the case here reported was the presence of an osteoid matrix.—J. G. K.

Heart


Report of a small myxoma on the right side of the septum membranaceum with severe damage to the His-Tawara bundle.—W. H. W.


Report of a case in a 68 year old white man who died suddenly following the rapid onset of cardiac decompensation. Four figures show the polypoid tumor formations in the wall of the right atrium, the infiltration of the myocardium by immature mesenchymal cells, and the argyrophilic fibers in close relation to the cells of the growth.—J. G. K.

Liver


Case report. The occurrence of hypoglycemia and hyperglycemia in liver disease is briefly discussed.—M. E. H.


Such data as are available suggest that the very high incidence of primary cancer of the liver found among Negroes in Africa does not appear among Negroes in the United States, and is therefore not of a purely racial character. Hence the prevalence of this form of cancer...
in Africa may be due to some extrinsic factor, which could be identified. The statistical evidence on this question is confused by the inclusion of cancer of the gall bladder in the same category with cancer of the liver.—Author's summary.


A report of 77 cases of primary carcinoma of the gall bladder removed surgically. Stones were present in 88% of the cases. The site of origin of the carcinoma, determined in 48 cases, was in the region of the fundus in 54%, in the midportion in 27%, and in 19% at the neck. Direct extension beyond the wall of the gall bladder or visible metastases were present in 48 cases (64%) of the 75 cases in which these factors were ascertained. The percentage of metastases varied with the histological grade (Broders' index) of the lesion: Grade I, 25% of 20 cases; Grade II, 64% of 25 cases; Grade III, 88.8% of 18 cases; and Grade IV, 100% of 12 cases. In 75 cases microscopic examination showed 64 (85.3%) of the carcinomas were adenocarcinomas, 2 (2.7%) were of the squamos cell type, and 9 (12%) were mixed adenocarcinoma and squamous cell carcinoma (adenocanthoma). There were 5 year cures in 45% of cases of carcinoma, Grade I, in 43% of cases of Grade II, and none in other groups.—W. A. B.

**PERITONEAL AND RETROPERITONEAL TUMORS**


A very brief presentation of the spread of malignant tumors over the peritoneal surfaces, and the clinical picture thus created.—E. E. S.


The two most common retroperitoneal tumors occurring in infancy and childhood are neuroblastoma sympatheticum and embryoma of the kidney. Their differentiation from retroperitoneal teratoid tumors is described. The author reports a case of teratoid tumor in an infant 3 months of age, this being the fourth case in infancy or childhood in which the tumor has been successfully removed. A transperitoneal liberal incision is the best approach for the removal of these tumors. Twenty-three cases reported in the literature are reviewed.—A. Cnl.


Liposarcomas are rare tumors, most commonly found in the region of the buttocks and retroperitoneal spaces. They grow slowly, are encapsulated, tend to recur at a higher degree of malignancy, and have a most unfavorable prognosis. Treatment is directed toward a wide excision. The value of x-rays is debatable. One case of the retroperitoneal variety is presented.—J. L. M.


The authors present a case in which a retroperitoneal fibromyxosarcoma adherent to the vena cava was removed. After living comfortably for 8 years, the patient returned with a recurrent lesion that also was adherent to the vena cava in the identical region. It was possible to remove the sarcoma with excellent result a second time.—J. L. M.


Three case reports of neurogenic sarcoma, adrenal carcinoma, and calculus pyonephrosis respectively.—V. F. M.


Case reported because of the large size of the tumor, its extrarenal origin, and its rather unusual clinical picture and course.—M. E. H.


Case report.—W. A. B.

**BONE AND BONE MARROW**


The author presents a classification of bone tumors, based upon that of Geschickter and Copeland under the 3 main headings of benign tumors of bone, malignant bone tumors (including tumors of bone marrow) and metastatic tumors of bone and bone marrow. The various groups under these headings are discussed briefly.—J. L. M.

**Diagnosis in Primary Bone Tumors.** CARRELL, W. B. [Dallas, Tex.] *Texas State J. Med.*, 39:289-290. 1943.

A brief presentation of the problem.—J. L. M.

**Indications for Surgery in Bone Tumors.** COLEY, B. L. [Dallas, Tex.] *Texas State J. Med.*, 39:290-293. 1943.

A general discussion.—J. L. M.


A brief review of the literature and 2 case reports.—J. L. M.


A case is reported in which first curettings showed benign giant cell tumor of the lower femur. Postoperative radiation was given, but there was recurrence with sarcomatous changes 3 years after treatment. The patient is living and well 5 years after amputation.

A bibliography of 69 references is appended.—R. E. S.


Case report.—W. A. B.

A report of a case representing a 13 year cure of osteogenic sarcoma with multiple metatarsal fractures.—M. E. H.


Report of a case, with postmortem findings. Several bones were involved. An extensive foreign-body giant cell reaction in the renal tubules was attributed to the albuminous casts present, associated with myelomatous infiltration of the renal tubules. Metastases were present also in the subcutaneous tissues.—L. W. P.

Muscle and Tendon


The tumor, which developed in the region of the gastrocnemius of the right leg, was first noticed when the child, a negro boy, was 6 months old. Growth of the tumor was progressive until death of the boy at the age of 2 when clinical signs indicated lung metastases. Autopsy revealed diffuse infiltration of both lungs and extensive invasion of pleural surfaces by pedunculated masses.—A. C.


A case is reported illustrating the difficulties in the diagnosis and treatment of this condition.—M. E. H.


Case report. Xanthoma is the most common type of benign tumor arising from the synovial membrane of a joint. The presence of either a palpable mass or soft tissue tumor demonstrable by x-ray, and the aspiration of sanguineous brown or yellow fluid with a high cholesterol content are aids in diagnosis.—M. E. H.


Report of 4 cases.—W. A. B.


Report of a case.—W. A. B.


Pain was the chief complaint in this case of venous hemangiomia of the lateral head of the right gastrocnemius and was relieved by surgical extirpation of the lesion.—W. J. B.


Only about 25 reported cases of malignant tumors arising from synovial membrane can be regarded as authentic. The tumor described by these authors arose in the knee of a 16 year old boy and in the early stages simulated an inflammatory process. Exploration later established the neoplastic nature of the lesion and disclosed infiltration of muscle and fascia but not of bone. Despite mid-thigh amputation metastases appeared in lung and tracheobronchial lymph nodes. The tumor in the knee was undifferentiated and resembled, in many respects, a neuroblastoma.—E. E. S.


Symptoms present for at least 9 years were due to a tumor that could be recognized only by exploration. The patient was aged 14 at the time of resection. Pain, which had been excruciating, disappeared promptly, and there was good return of function.—E. E. S.


A case report of a patient with a large desmoid tumor 18 cm. in diameter and weighing 2,550 gm. An unusual feature was the rapid growth of the tumor.—J. L. M.

Blood Vessels


The author feels that there are probably 3 forms of malignant vascular tumors: hemangiopericytoma, a vascular form of leiomyosarcoma, and hemangioendothelioma. The criteria given for diagnosing hemangioendothelioma are: atypical endothelial cells in greater abundance than necessary for the formation of a simple endothelial lining, and the presence of anastomosing vessels with an outer reticulin framework. Silver staining is of great help in diagnosis. Chorionepithelioma and hypernephroid carcinoma are apt to be confused with hemangioendothelioma. The existence of a benign metastasizing hemangiosarcoma is not substantiated. A discussion of the literature and 18 case reports of hemangioendotheliomas are included in the paper. Eleven of the patients reported on were females, and 7 were males; 3 were colored; 9 were less than 30 years of age; 6 were more than 50 years of age at the time of onset; 10 died with metastases.—W. J. B.

Leukemia, Lymphosarcoma, Hodgkin's Disease


The 2 cases reported are of interest because of the congenital features in both and the unusual skin manifestations in one. A review of the literature for the last 25 years reveals 20 cases of congenital leukemia, 16 myelo-
genous, 3 lymphogenous, and 1 questionable in type.—M. E. H.


The disease was discovered during the sixth month of pregnancy and proved fatal following Caesarian section in the eighth month. The fetus was found dead, and necropsy revealed the absence of leukemic cells in the fetus as would be expected.—E. E. S.


The first case is reported because of the extreme degree of lymphocytosis and the paucity of clinical symptoms until a few days before admission to the hospital and up to a few weeks prior to death. In the second case sulfadiazine was effectively used in the treatment of a coexisting pneumonia but had little or no effect on the lymphoid cell proliferation.—J. L. M.


A discussion, based upon a study of 97 cases of leukemia, 6 of which showed a varying degree of myelofibrosis, and in either location may be hormonal or nonhormonal. Of 148 specimens from the thyroid gland, examined at the Nix Hospital Clinical Laboratory between 1930 and 1944. 4% were adenomas; 41%, toxic goiters. The gross and microscopic differential diagnosis of goiters, strumas, benign tumors, and the malignant tumors of the thyroid is stressed.—J. L. M.


Tumors of the adrenal may be cortical or medullary and in either location may be hormonal or nonhormonal. Diagnosis is made by a study of symptoms, identification of excess hormone excreted in the urine, demonstration of a pressor substance in the blood that disappears under air insufflation x-rays.—M. E. H.


A general discussion.—J. L. M.

Pineal


The author advances evidence, based on 4 original cases and a consideration of several in the literature, that the majority of pineal tumors are atypical teratomas. Such evidence depends on the mixed character of the tissues in certain of these tumors, in the recognition of “pinealoma” areas in manifest typical and atypical teratoma of the pineal, and in their close resemblance to the spermatoblastoma—a tumor that many regard as also an atypical teratoma.

This view is supported by the occurrence of ectopic pinealomas in the infundibulum, quadrigeminal plate, vermis, and pituitary gland.

A true pinealoma, showing a mosaic of immature pineal cells interspersed among large adult spheroidal cells, is regarded as a rare but definite entity.—L. W. P.

Thyroid


Of 148 specimens from the thyroid gland, examined at the Nix Hospital Clinical Laboratory between 1930 and 1943. 33% were neoplastic; 64% exhibited malignant tumors; 41%, toxic goiters. The gross and microscopic differential diagnosis of goiters, strumas, benign tumors, and the malignant tumors of the thyroid is stressed.—J. L. M.


The presence of the tumor was suspected only on the chance finding of hypercalcemia and hypophosphatemia. There was no clinical evidence of osteitis fibrosa or of renal calculi. On removal of the adenoma, the blood values returned to normal level.—E. E. S.

Multiple Tumors


A malignant adenomatoid neoplasm of the interstitial
cells of one testis was found in a patient dying of carcinoma of the prostate.—V. F. M.


Three cases were presented. In the first case there was a carcinoma of the transverse colon and a second lesion in the midascending colon. The second case was characterized by squamous cell carcinoma of the esophagus and adenocarcinoma of the stomach. In the third case there was an adenocarcinoma of the stomach and an independent adenocarcinoma of the esophagus.—W. A. B.


A study of data obtained from the state tumor clinics has led the authors to believe that there is a greater susceptibility to cancer in persons having one cancer than in the normal population. Whether this susceptibility is caused by the first cancer or is inherent in the individual is not known. There is no evidence to warrant the assumption that the presence of a skin cancer inhibits other cancers. If anything, the evidence points to the contrary.—M. E. H.


A series of 2,829 cases of cancer was studied from the standpoint of multiple malignant neoplasms; 194 cases were found, an incidence of 6.8%. When this is combined with the series previously reported by Warren and Gates, there were 3,907 cancer autopsies with an incidence of 6.0% multiple cancers. The average age of the male group with multiple malignant tumors was 62.5 years, of the female group, 56.9 years, and of the entire group 62.5 years. The average duration from the onset of the first tumor until the time of death was 2.7 years. Frequently, it was impossible to determine the interval between the malignant tumors, but when they were clearly established as successive the average interval was found to be 3.1 years. Cases of multiple malignant growths occurred more frequently than would be expected on the basis of chance alone. This greater frequency, calculated as eleven-fold, may be attributed to susceptibility or predisposition to the development of cancer in certain persons or groups of persons.

Among the multiple growths reported were 6 cases in which 4 different malignant tumors occurred, and 23 cases in which 3 malignant tumors occurred.—Authors' abstract.

Miscellaneous


Litigation cases in general have been inadequately examined and reported; claims have been settled on a basis of sympathy, not science. On the basis of present knowledge no conclusion can be drawn concerning a possible etiologic relationship between trauma and cancer of the testis, but all evidence is against the assumption that one exists.—J. L. M.


Tumors of the foot, like those of the hand, differ from neoplasms elsewhere in being frequently multiple. The clinical features are, for the most part, those of neoplasms in general. The various types of tumors that may be found on the feet are discussed.—M. E. H.


Case report of a teratoma in a full term female infant, who had in addition 3 lobes composing the left lung, patent ductus arteriosus, patent foramen ovale, and patent urachus.—W. A. B.


Case report, with 5 figures.—J. G. K.


Case report.—W. A. B.

Cancer Control and Public Health


The role of the Women's Field Army in personal contacts and education of the public is discussed. It is stated that effort must be directed also toward enlightenment of the physicians and development of facilities for treatment.—E. E. S.


The Pennsylvania plan for cancer control is outlined; its purposes, its methods, and some of its results are given. The Division of Cancer Control of the Department of Health of the Commonwealth of Pennsylvania was established in April, 1939, and began functioning in July, 1939. Tumors were declared reportable diseases. A set of questions was devised in the form of blanks to be distributed to all the physicians of the Commonwealth. In addition it was asked that a microscopic slide of every biopsy and/or tumor specimen be sent to the Division. Since the filling out of these blanks entailed time and expense, a fee of 50 cents was provided for each one properly annotated. The plan is being adopted more and more by clinics, hospital staffs and individual physicians throughout the Commonwealth. In spite of the detailed nature of the program, the number of accessions steadily rose...
from 75 the first month, and 300 the second month, to over 1,500 at the time the article was written.—J. L. M.


There is evidence that the occurrence of human cancer is in some cases attributable to the influence of specific chemical or physical agents, to an association with precancerous lesions and with other diseases, to familial factors that may be hereditary. Many of the etiological and differential factors point to possible public health applications in the form of special attention in education, in case finding, and in follow-up. It seems reasonable to forecast that in the future, cancer control programs will be guided to a greater extent than in the past by existing knowledge and by further investigation of the epidemiological characteristics of the disease.—M. E. H.


A brief outline of the legal factors determining the outcome of compensation cases involving cancer.—M. E. H.