lumen is very opaque; the mucoid substance is transparent; the chondroid tissue more opaque, and the osteoid tissue very opaque. Details are given of the historadiographic aspects of several tissues. In conclusion it is pointed out that interesting facts may be established concerning the physico-chemical structure of tissue elements, but the technic has to be improved, especially in so far as it concerns the quality of the emulsion of the photographic films.—R. J.


Papillary adenoma of the mucous membrane of the gizzard, without marked change in the blood or other organs appeared in 3 of 10 chicks that had been injected intravenously with 0.5 cc. of citrated whole blood from a White Leghorn pullet with erythroleukosis. Unsuccessful attempts were made to inoculate the tumors by application of the material to scarified combs or by subcutaneous injection into White Leghorn cockerels. Cross-bred chicks similar to those in which the tumor originated were not available for the inoculation experiments.—M. H. P.


A report of a case is given and includes photomicrographs. Although the animal appeared healthy when it was slaughtered, the marrow was found by the butcher to be abnormal and a portion of the carcass was submitted for histological study. The tumor was present throughout the marrow of all bones examined, including the terminal coccygeal vertebrae. The spleen, lymph glands, and blood were not available for histological study, but the butcher reported that the thoracic lymph gland was enlarged and the spleen was very firm.—M. H. P.


A review.—E. L. K.

Clinical and Pathological Reports

Clinical Investigations Are Sometimes Included Under Reports of Research

Diagnosis—General


In this discussion the author considers the differential diagnosis between ruptured lumbar disk and intradural neoplasm. Three case histories are presented dealing with this part of the paper. Briefly mentioned are the intraspinous extradural tumors.—L. M.


The relationship of leukemia to the cause of splenomegaly is discussed. Illustrative case histories are presented including those of patients with chronic myelogenous leukemia, chronic lymphatic leukemia, leukopenic myelogenous leukemia. Other causes of splenomegaly which are discussed, each with case reports, include lymphoblastoma, agnogenic myeloid metaplasia of the spleen, splenic lymphangiohemangioma, leiomysosarcoma, and hypernephroma.—J. L. M.


The results of the Weltmann serum coagulation tests in 128 cases are tabulated. The author states in his discussion that the coagulation band is a non-specific reaction, both lobar pneumonia and nephrosis, for example, showing a pronounced left shift. He finds that the reaction shows a pronounced left shift in the large majority of patients with neoplastic disease and concludes that the test has differential diagnostic value.—J. G. K.


A summary and discussion of diagnostic methods.—E. L. K.


A simple test on the urine and blood of cancer patients is described. One to 4 oz. of an early morning urine specimen should be tested for calcium by Sulkowitches reagent. Lime water is added until the calcium content is normal. The specimen is then transferred to an enamel kidney basin. Blood from the patient, about 4.0 cc., is then added to the urine in such a way that the blood slowly covers the bottom of the dish and the urine covers the blood. If clotting of the blood occurs, the dish should be gently agitated. A positive test is read when small clots cling to the bottom of the dish and are not dislodged by washing with cold water. The test has proved accurate in about 92% of 122 cases when tried among 5 independent workers at the Vancouver General Hospital.—M. E. H.


When histamine base was given to 3 patients who had pheochromocytoma, the blood pressure rose approximately 100 mm. more than the elevation obtained by the cold pressor tests. This elevation was accompanied by the characteristic symptoms of a spontaneous attack. The authors conclude that the test may be considered tentatively as a worthwhile procedure in distinguishing the syndrome of pheochromocytoma from other conditions.—J. G. K.

A discussion is given of various factors which are concerned in the histological diagnosis of cancer, based upon examination in the author's laboratory of 19,296 tumors. Cancer cells have certain recognizable features, i.e., hyperchromatism, mitotic activity, cell enlargement, alteration of cytoplasmic staining and so on, but these are not invariable. The diagnosis of cancer is made mainly and finally by tissue pattern and not from single cells.—E. L. K.

**THERAPY—GENERAL**


The histories of 206 patients with cancer of the breast who received roentgen therapy at the Presbyterian Hospital, New York, and of an unstated number of cases with remote metastasis treated at the Montefiore Hospital, New York, were studied in an attempt to correlate the results of therapy with the tumor dosage administered. In the period 1923 to 1929, a series of 78 patients received low doses of roentgen therapy postoperatively in repeated courses over several months. This treatment did not appear to influence the course of the disease, and in 8 instances, skin metastases developed in a previously irradiated area, indicating clearly the inadequacy of the dosage. Subsequently, the author abandoned routine postoperative irradiation, and now advocates such treatment only in cases where surgical removal of the breast tumor is known to have been incomplete. In the years 1933 to 1937, higher tumor doses ranging up to 4,500 r were delivered by fractionated irradiation, cross-firing the breast and axilla. The local disappearance of the primary tumor after irradiation did not influence the course of the disease in patients with distant metastasis. Local regression was observed more frequently when the tumors were of small size. Recognizable tumor cells were found on histological examination of all mastectomy specimens in this group. The author concluded that such doses are too low to destroy cancer of the breast, and accordingly, most of the patients treated since 1938 have received tumor doses of 5,500-8,000 r, delivered through multiple portals to the breast and axilla. There were 47 patients whose tumors, though localized to the breast and axilla, presented one or more of the stated criteria of inoperability, and roentgen therapy alone was employed in these cases. Gross persistence of cancer was noted in all primary sites receiving a tumor dose of less than 5,500 roentgens. By contrast, only 8 of 32 patients who received tumor doses over 5,500 r had grossly detectable residual disease in the breast. Of 24 patients whose tumors disappeared clinically after treatment, 11 were clinically free of cancer after 5 years. Since none of these patients was subsequently mastectomized, histological studies in this group are not available.

The author concludes that radical mastectomy is still the treatment of choice in operable cases of cancer of the breast. Roentgen therapy alone, in tumor doses over 6,000 r, is to be preferred to combined mastectomy and preoperative or postoperative irradiation in cases initially considered inoperable. Roentgen therapy of metastases is necessarily limited in dosage and only temporary regression or restraint of growth can be affected. Such treatment is particularly recommended for the relief of pain due to skeletal metastasis. Treatment of pulmonary or hepatic metastases is seldom of value. In patients who have not passed the menopause, local treatment of bone metastasis may be supplemented by roentgen castration.—H. S. K.


The process of radiation is described, followed by a brief discussion of radiation therapy as it should be applied to specific tumor sites. The author points out that this is a field for a specialist, and that the radiologist must watch his patient carefully throughout treatment, concluding that "radiation in proper hands and properly used is a powerful weapon; in the wrong hands it may be extremely dangerous."—E. B. B.


In the 3 cases presented in this report, radiotherapy was the sole form of treatment. The cases were all of the chromophobe type. Headache, a prominent symptom in all, disappeared early and there was moderate to marked improvement in visual acuity. The argument for roentgen therapy is strengthened when the mortality statistics of the x-ray treated group is compared with those receiving surgical treatment.—M. E. H.


The tube is placed under the bed where the patient lies in dorsal or abdominal decubitus. The bed is maintained at 170 cm. from the floor. By using that technic, in both dorsal and abdominal positions, the cervix uteri is brought closer to the skin surface, through which the x-rays penetrate. The yield of the irradiation is increased by 30%.—R. J.


The authors treated 17 cases presenting 19 late irradiation ulcers with radon ointment, a relatively new therapeutic agent introduced in 1930. Twelve of the ulcers healed completely in periods varying from 3 to 50 weeks. Two ulcers with residual malignancy showed a good response but failed to heal completely.—M. T.


This is a description of a new type of holder and inserter for the placement of multiple radium capsules in the uterine cavity. This instrument is designed to accommodate the standard radium-containing platinum cell, thus eliminating the need for special radium sources. The method of insertion with this instrument is briefly described.—H.S.K.

A general discussion—M. H. P.


Stimulated by the work of Lipshitz in which progestosterone treatment prevented the induction (under estrogenic stimulation) of fibromyomas of the uterus in the guinea pig, Goodman injected large doses of progesterone (10 mgm. 3 to 6 times weekly) in 7 women who had clinical evidence to support a diagnosis of uterine myomas. The size of the uterus was judged to decrease. The results were reported with the expressed hope that other investigators who had more elaborate facilities would check other cases, similarly treated, to determine the actual effect of progesterone treatment on the fibromyomas.—J. B. H.


Biopsies of breast and testicular tissue were obtained in several cases before and at varying intervals after the administration of stilbestrol (360 to 1,700 mgm.) to patients with prostatic carcinoma. Stilbestrol was capable of producing proliferative change in the male breast and marked degenerative changes in the human testes.—M. E.H.


A 27 year-old patient with mammary cancer and extensive skeletal metastases was oophorectomized bilaterally June 30, 1944, and on the day following the operation was placed upon a course of daily oral treatment of 20 mgm. of methyltestosterone. The patient was relieved of pain, gained weight, became ambulatory, and showed roentgenographic evidence of extensive calcification of skeleton in areas of cancerous metastases. No menopause-like signs appeared. This relief persisted for 8 months until March, 1945, when pain and progression of the cancerous state reappeared. Death occurred in June, 1945.—J. B. H.


A review.—E. L. K.


During the past 21/2 years, 5 patients with cancer or ulcer of the lower esophagus and upper stomach were subjected to partial or total gastrectomy by the trans-thoracic route, with esophagogastric or esophagojejunostomy. Two died shortly after the operation and 3 survived; final results are not yet known. In addition to these cases presented in detail, 56 others are mentioned in which transhthoracic gastrectomy with esophagogastrostomy or esophagojejunostomy was performed for cancer, with an operative mortality of 46.6%. The trans-thoracic approach is superior to the abdominal approach in that it permits resection of growths that have extended up the esophagus, and reveals supradiaphragmatic metastases.—M. H. P.


A series of 59 patients with neoplastic and allied diseases of the hemopoietic system have been treated with methyl-bis (beta-choroethyl) amine hydrochloride. The diagnosis was confirmed by biopsy or sternal puncture in each instance. The diseases treated include 27 cases of Hodgkin's disease; 6 of lymphosarcoma; 2 sympathoblastoma; 2 multiple myeloma; 8 myelogenous leukemia; 1 acute and 7 chronic forms; 5 polycythemia rubra, and 9 lymphatic leukemia, 1 acute and 8 chronic forms. The dosage was 0.1 mgm. per kgm. of body weight given in courses of 1 to 7 daily injections. Nausea and vomiting 3 to 4 hours after administration of the drug was the usual immediate toxic reaction. The rapidity and severity of the lymphopenia, neutropenia and thrombocytopenia which almost invariably occurs within the first 5 weeks is dependent on the sensitivity of the patient, the disease, and the total amount of the drug given. The hematologic changes observed in the peripheral blood are parallelled in the bone marrow, and there is a return to normal values after varying intervals. The clinical remissions vary from zero to 18 months. Encouraging results have largely been confined to Hodgkin's disease, lymphadenopathy, splenomegaly, hepatomegaly usually regress rapidly; repeated courses have produced further remissions. In certain cases of Hodgkin's disease classified as roentgen ray-resistant, significant clinical remissions have been produced.—M. E.H.


A review with bibliography for general practitioners is presented. The subjects discussed include cancer statistics, euthanasia, nursing care, chemotherapy (negative clinical results with heptaldehyde bisulfite and avidin). Supportive measures for the patient, treatment for nausea, and vomiting, as well as care of cutaneous ulcerations are considered. Relief of pain by hypnotics, narcotics, alcohol injections, calcium medication, and cobra venom are discussed.—M. H. P.


A case report of an adenocarcinoma of the pylorus in a 76 year old man is given. The author points out several lessons to be learned from this case: (1) a brief history of gastric “ulcer” in patients past middle age usually indicates cancer; (2) gastric analysis is of little diagnostic help; (3) disappearance of the ulcer crater under medical man-

The low rate of cure seems to be dependent on the extent of local excision at the time of the first surgical intervention. The author advises more radical early surgery.—M. E. II.

**SKIN AND SUBCUTANEOUS TISSUES**


The surgical excision of 17 hemangiomata and nevi, in patients ranging from 1 to 36 years of age, is discussed. Many of these patients had had previous dermatologic treatment, which is of aid with smaller vascular nevi.—W. A. B.


From 80,000 surgical specimens examined during the years 1931 to 1941, 871 soft tissue tumors were classified, first according to the sex, race, and age of the patient, and second according to the anatomical distribution and size of the growth. There were 111 fibrosarcomas, 142 fibromata, 358 lipomata, 142 hemangiomata, 17 lymphangiomata, 39 angioependymoma, 31 neurofibromata, and 31 neuromata. The ratio of benign to malignant tumors was 8 to 1.—J. G. K.

Sur trois cas de tumeurs sous-cutanées multiples. [Description of Three Cases of Multiple Subcutaneous Tumors.] Barlet, J., and Souchard, L. [Pasteur Inst., Paris, France] Bull. Assoc. franç. p. l'étude du cancer, 31:189-194. 1943. These 3 cases concern different malignant tumors which appeared in aged patients. The growths had the common characteristic of spreading early to the skin from subcutaneous tissue.—R. J.


The most common primary malignant tumors of the scalp are basal cell and squamous cell epitheliomas. The latter usually develop on the cutaneous surface but they may originate within sebaceous cysts. Other primary neoplasms of the scalp include melanophelioma, fibrosarcoma, and lymphoblastoma (Hodgkin's disease). With the exception of the latter, surgical removal supplemented with radiation is the treatment of choice. Secondary malignant tumors of the scalp include metastatic hypernephromas, carcinomas and sarcoma. The carcinomas usually are primary in the stomach, colon, breast, bronchus or prostate. Multiple myelomas may also involve the scalp secondarily.—J. L. M.


The first tumors had appeared 33 years before in the region of the right eye. During the last few months before operation the growths had enlarged to a turban-like mass covering the whole upper part of the head, and neoplastic lesions appeared on the trunk at the same time. All of the tumors had a strong smell of butyric acid. There was no familial history.—E. L. K.


Description of a case.—E. L. K.

**NERVOUS SYSTEM**


Of 8 patients suffering from medulloblastoma, 6 were males and 2 were females; the average age on admission to the hospital was 19.4 years, and the average duration of symptoms prior to admission was 4.9 months. A case of spongioblastoma ependymale is described, the patient being a female aged 13 years; the duration of symptoms prior to admission to the hospital was 3 weeks. Medulloblastomas are twice as common in males as in females, not 3 times as common, as Gushing states. With one exception, symptoms and signs of increased intracranial pressure always preceded those due to dysfunction of the cerebellum and adjacent structures. Papilledema is not necessarily a concomitant of increased intracranial pressure. X-ray examination of the skull was of assistance as a diagnostic measure in 4 out of 7 cases. The pressure of the cerebrospinal fluid was raised in 3 out of 5 cases in which it was estimated; the composition of the fluids showed no significant changes. Cerebellar dysfunction manifested itself most commonly as muscular incoordination associated with atonia and asthenia. Vertigo occurred in 5 cases and nystagmus in 4.

The average survival period in 4 cases of medulloblastoma, in which treatment was by partial or radical excision followed by deep x-ray therapy, was 10.1 months. The importance of repeated postoperative irradiation of the entire cerebrospinal axis is emphasized. The commonest causes of death were increased intracranial pressure (4 cases) and menigitis (3 cases).

The nature and origin of the cells of medulloblastomas are discussed. Variations in the cellularity, the vascularity, the amount of stroma and the number of mitoses did not appear to be of value in the determination of the grade of malignancy in the 8 cases of medulloblastoma studied. Local necrosis with involvement of blood vessels may be a factor leading to increase of collagen in medulloblastoma. Metastases were detected in only 1 of 5 cases of medulloblastoma in which autopsy was performed. Postmortem examinations, however, were confined to the cranial cavity. There was suggestive clinical evidence of
spinal metastases in one case. In comparison with those of medulloblastomas, the principal cells of the spongioblastoma ependymale studied were larger and rounder and had a more vesicular nucleus. The tumor was much more vascular and the vessels were considerably larger. The tumor cells had a pronounced tendency to arrange themselves around vessels. Connective tissue stroma was almost entirely absent. It is suggested that other examples of spongioblastoma ependymale have been classified erroneously as medulloblastoma. Author’s summary. (E. L. K.)


A very large intraportal cystic growth was removed successfully from a girl aged 4½ years.—E. L. K.


The protein of the cerebro-spinal fluid was examined in a series of 161 intracranial tumors (gliomas, meningiomas, infratentorial tumors, tumors of the pituitary region, and others). The highest normal level is considered to be 40 mgm. per cent; 42 of the 161 cases showed greater amounts. Of 22 tumors in the cerebellum, 2 only produced a slight increase. The frequency of increase is greatest with the glioblastoma but in 66% of the cases of such tumor no change was observed. There is no constant relation between the histological type of tumor and increase in protein.—E. L. K.

Eye


Retinoblastoma occurred bilaterally in identical twins in one family; in a second family both the horizontal and the vertical occurrence of retinoblastoma was observed. It is suggested that parents who have produced a child with retinoblastoma should be urged to discontinue having children and that children surviving enucleation for retinoblastoma should be sterilized.—E. M. H.


Malignant lymphocytic tumors situated in the orbit, as well as elsewhere, present problems of diagnosis, both clinically and histologically. Nineteen cases of primary lymphosarcoma of the orbit are considered, and brief reference is made to some other lymphogenous tumors of the region. One case in which the intraorbital and intracranial manifestations presented a difficult problem of diagnosis has been described.—J. L. M.


Bilateral retinoblastoma in a 4-year-old girl was successfully treated by removal of one eye and irradiation of the other by the method of Martin and Reese [Arch. Ophth., 61:733, 1936], employing the principle of the fractionated roentgen irradiation. Two cases treated by the author in Budapest with the electrocoagulation method of Weve [Am. J. Ophth., 18:575, 1935] are briefly mentioned; in 1 case the tumor was arrested for a few months only, in the other it was apparently cured (18 months follow-up). The author considers that the method of Martin and Reese surpasses all other methods of radiation treatment, and that the method of Weve has not yet been tried in a large enough series of cases to know its relative value. Because of the hereditary factor in retinoblastoma, and because of the need for early therapy, he urges that patients with this disease have their children’s eyes examined in the first weeks of life and repeatedly thereafter.—M. H. P.

BREAST


There was considerable enlargement of an axillary gland, but no palpable breast tumor. After excision of the breast a small area of malignant duct papilloma was found in it, of the same type as the growth in the axillary gland.—E. L. K.


A general discussion is given under the following headings: examination of the breast, chronic cystic mastitis, sanguinous discharge from the nipple, benign tumors of the breast, cancer of the breast, and Paget’s disease of the nipple.—J. L. M.


A woman aged 68 had a lump in her right breast. Since the patient’s 28th year and during successive pregnancies, the mass had enlarged until removal, at which time it weighed 23 kgm. The tumor was exceedingly vascular and appeared to be a nonmalignant fibroadenoma.—E. L. K.


Three kinds of fatty tumors of the breast may be distinguished, namely: (1) intramammary lipomas, arising in the fat of the intralobular connective tissue, (2) adeno-lipomas, mixed tumors of fat and epithelium, arising within the mammary lobule, and (3) paramammary lipomas, arising in the retromammary or subcutaneous fat but clinically involving the breast. An example of each of these varieties is described and illustrated.—E. L. K.


An historical review divided under the heading of 6 periods of which the first extends up to 1860 and the last from 1904 onwards.—E. L. K.


A review of 104 cases treated at St. Anne’s Hospital is given. Keynes’ method of applying radium after amputation is advocated.—E. L. K.