ABSTRACTS

EXPERIMENTAL STUDIES; ANIMAL TUMORS


A detailed review of the literature on the polynuclear aromatic hydrocarbons from the point of view of the chemist. It includes an analysis of the reported results pertaining to the carcinogenic activities of 1:2:5:6-dibenzanthracene, 3:4-benzpyrene, and methylcholanthrene, with special emphasis on the induction time or latent period; information as to commercial sources of the principal carcinogenic hydrocarbons and methods of preparation and purification; a summary of work on the correlation of structure and carcinogenic activity for a limited group of hydrocarbons and their substitution products; and a discussion of the fate of carcinogenic hydrocarbons in the body, with a summary of recent observations on the chemical properties and reactions of these substances. A bibliography of 168 references is appended.


During about eight years of observation only one spontaneous tumor developed in line XXX, namely an osteogenic fibrosarcoma; breast cancer and lymphadenomatosis were completely lacking. Tumors were produced, however, by various agents, and lymphadenomatosis was also observed. Eleven out of 23 mice painted with tar developed epithelioma of the skin and almost all which lived more than five months had either malignant tumors or precancerous changes. Small doses of 1:2:5:6-dibenzanthracene were injected into the axilla in 102 mice, of which 19 developed sarcoma and 2 lymphadenomatosis. Radon tubes were implanted in the mammary plane in 51 mice, of which 2 developed sarcoma and 1 lymphadenomatosis. Thirty-nine mice were infested with Spirochaeta morsus muris, and of these, 1 died two months after infestation, with sarcoma of the intestine, while 4 died with lymphadenomatosis, splenomegaly, or hepatomegaly. The particular frequency of tumors in certain litters illustrates the importance of the constitutional factor even for induced tumors.

L. Foulks


Two injections, with an interval of two months between them, of 0.4 c.c. of a 0.3 per cent solution of methylcholanthrene in arachis oil were made into the left kidney in 22 rats. Of 14 animals which survived more than six months, 3 died (173, 177 and 211 days after injection) with large abdominal tumors. The tumors were polymorphous-cell sarcomas which almost destroyed the kidney; one contained smooth muscle fibers at the junction of kidney and tumor and there resembled leiomyosarcoma; there were secondary deposits of one tumor in the lung. One tumor was transplanted easily and is now in the fourth passage.

L. Foulks


Two rabbits which received injections of 1:2-benzpyrene dissolved in benzene into the knee joint developed small arthrophyses which were shed into the joint cavity.

L. Foulks

Deformaldehyde peroxide was injected into mice which had been painted with benzpyrene. Strong concentrations (10^{-9}) accelerated the production of cancer but lower concentrations (10^{-4} to 10^{-9}) inhibited. The effect was produced by a single dose. Concentrations as low as 10^{-18} were effective in multiple doses; the effect of a single dose is not yet known.

L. FOULDS


The author quotes the statement that it is the cytoplasm of the ovum, and not the nuclear elements, which determines the speed of the splitting of the cell and cites the opinions of others to the effect that extrachromosomal factors are of importance in the incidence of mouse leukemia and mouse mammary tumors. Hence he believes that chemical study of the structures of the cytoplasm may be of value in various directions. The presence of vitamin A has been observed in the mitochondria of the cytoplasm. In order to isolate the mitochondria for analysis, finely divided tissue suspensions are centrifuged at low speed; then, as the coarser particles are removed, the remaining suspension is centrifuged at high speed for a greater length of time. By examining the deposit microscopically from time to time, the mitochondria can be obtained fairly free from other cell structures. After injection a colloidal solution of 1 : 2 : 5 : 6-dibenzanthracene into the peritoneal cavity of rabbits in amounts of 3 mg. per dose, the liver was removed and the vitamin A determined. It was found that after repeated injections the vitamin A content of the liver was greatly reduced and the total lipid increased. If the dose of hydrocarbon was small, or was discontinued, the power to store vitamin A returned to the mitochondria of the liver cells. The liver apparently was not able to split carotene administered parenterally while the animal was receiving dibenzanthracene. [See following abstract.]


In continuation of the work described in the preceding abstract, the authors selected the Flexner-Jobling rat carcinoma and the R-39 rat sarcoma for a study of the lipid content of the liver and tumor mitochondria. The tumor cell mitochondria of neither Flexner-Jobling rat carcinoma nor rat sarcoma R-39 showed vitamin A, but the hepatic mitochondria of animals bearing either type of tumor had an abundant store of the vitamin. The total lipid of hepatic mitochondria in rats with and without tumors was the same. The writers point out that the published records concerning the effect of vitamin A on tumor growth vary, but most investigators have thought that removing or increasing the vitamin in the food had no particular effect.


An investigation of the crystal structure of the two compounds mentioned in the title by means of x-rays.

A. F. Watson


The author had previously observed a leukocytosis in mice bearing grafts of an Ehrlich carcinoma; it was proportional to the mass of the tumor and preceded ulceration (Boll. d. Soc. ital. di biol. sper. 4: 470, 1929). Similar observations were made in mice with grafts of sarcoma 37S and with tumors produced by benzpyrene. Mice of the
RIII strain having a high incidence of spontaneous breast cancer had an unusually high leukocyte count at all times, but when tumors developed there was no true leukocytosis until shortly before death, when ulceration occurred. L. Foulds


Subcutaneous injections of benzpyrene into mice produced transient leukopenic shocks, but otherwise no change in the leukocyte count until tumors appeared, when there was an excessive production of polymorphonuclear leukocytes; true leukocytosis occurred only when the tumors were fully developed. In mice receiving cutaneous applications of benzpyrene in benzene there was an early and increasing leukocytosis attributed to strong irritation of the skin. When no tumors resulted there were small increases in lymphocytes without true leukocytosis. The defensive leukocytosis against chemically induced tumors and grafted tumors does not occur against spontaneous tumors. (For observations on transplanted and spontaneous tumors see preceding abstract.) L. Foulds


The leukocyte count in mice of the high cancer strain RIII was 22,000 to 26,000, while in the non-cancer strain XLI it was 5000 to 9000. Similar counts were obtained in parents and offspring of single families. The two strains were crossed and mendelian inheritance of the characteristic counts were observed. It is concluded that the leukocyte count, an index of the defensive reaction of the organism, is a relatively stable factor and a character which is transmitted by heredity. L. Foulds


Tissue cultures and histologic studies of mouse sarcoma 180 at intervals after irradiation in vivo indicated that the treatment resulted in an accumulation of blood granulocytes in the tumor. In all instances there were associated necrotic changes. Unirradiated tumors, however, whether necrotic or not, showed practically no identifiable blood granulocytes.


Lacassagne here summarizes observations made during the past six years. Weekly injections of estrogenic hormones, starting a few days after birth and continuing till death, were made into mice of six pure strains of varying susceptibility to spontaneous cancer; 193 mice which survived more than 120 days were available for analysis. The hormones used were estradiol, estrone, equilene, equilenine, and mixtures of these. It now appears that the "folliculin" used in the author's early experiments was a mixture in ill-defined proportions of the three last named hormones. Apparently all these hormones were equally effective judged by the number of tumors which developed, but the rate of development varied greatly, being proportional to the intensity of the action of the hormones on the growth of breast tissue. The order of activity was: estradiol, estrone, equilene, equilenine. The number, type, and time of appearance of tumors obtained with each hormone in the several strains of mice are recorded in five tables. Grouping the estrogenic hormones together, the tumors in injected mice were as follows:

Line RIII (70 per cent mammary cancer in normal females): 32 out of 38 males and 21 out of 30 females developed tumors (51 mammary adenocarcinoma; 1 mammary
adenocarcinoma together with lymphoid sarcoma of the thymus; 1 subcutaneous spindle-cell sarcoma with a mesenteric lymphoid sarcoma).

Lines IV and XVII (2 per cent mammary cancer in normal females): 6 out of 9 males and 3 out of 5 females developed tumors (all mammary adenocarcinoma).

Line XVIInc (derived from XVII but free from cancer): 3 out of 26 males and 1 out of 13 females developed tumors (1 lymphoid sarcoma of thymus; 2 subcutaneous spindle-cell sarcomas; 1 pituitary adenocarcinoma).

Line XXX (1 spontaneous tumor, a fibrosarcoma, in seven years): 4 out of 18 males and 7 out of 21 females developed tumors (1 lymphoid and 2 spindle-cell sarcomas; 1 adenocarcinoma of thyroid).

Line XXXIX (Strong’s CBA; no spontaneous tumors in five years): 3 out of 18 males and 3 out of 15 females developed tumors (4 lymphoid sarcomas; 1 epithelioma of uterus; 1 epithelioma of lung).

Thus in injected mice mammary carcinomas occurred only in those strains in which they develop spontaneously, but they occurred in larger numbers, at an earlier age, and in males as well as females. Hormones can modify the conditions imposed by heredity but their action is limited by hereditary conditions.

The sarcomas were described previously (Compt. rend. Soc. de biol. 126: 190, 193, 1937. Abst. in Am. J. Cancer 34: 274, 1938). The spindle-cell sarcomas developed at injection sites and often around oily cysts; a local carcinogenic action of the injected substance was probable. The considerable frequency of sarcomas in strains of mice in which they have not occurred spontaneously during several years of observation provides strong evidence that the hormones played a part in producing the tumors.

L. Foulds


The authors discuss the mechanism of the action of estrin in the production of spontaneous mammary gland carcinoma in susceptible mice and point out that there are three theories: (1) that the hormone is a direct carcinogenic agent; (2) that it merely causes a hyperplasia of the mammary gland and in so doing gives the opportunity for a mutation in the multiplying cells, leading to the production of a carcinoma; (3) that it has only an indirect action through stimulation of the pituitary to the production of hormonal substances which excite mammary gland changes. They point out that in experiments recorded so far the estrin has always been of exogenous origin. In order to study the effect of endogenous estrin, they administered prolan parenterally so as to stimulate the ovaries of mice of the Marsh-Buffalo strain to excessive hormone production. This treatment produced an enormous hyperplasia of the ovaries and presumably a marked hyperovarian function, but it failed to influence the onset or incidence of adenocarcinoma of the breast to which this strain is subject and which is normally enhanced in breeding animals. A short bibliography is given.


The pituitaries of 37 rats receiving injections of estrin for periods of from 30 to 425 days were studied. In rats treated for the shorter periods such injections induced a marked but uniform hypertrophy of the gland, but in rats injected for prolonged periods adenomata were induced. Histologically, it was found that the initial reaction to injections of estrin was generalized. The chromophilic cells were degranulated and reduced in number, while the chromophobes were increased in size and number. Degranulation of the chromophilic cells was accompanied by hypertrophy of the Golgi apparatus. In 9 rats injected for prolonged periods the generalized histologic reaction was replaced by one characterized by the appearance of adenomatous areas of cells. Three types of adenomata were described. These included pituitary adenomata associated with profound vascular changes, small nodular foci of cells presenting structural...
characteristics different from the cells of the surrounding extra-adenomatous tissue, and
diffuse adenomatous hyperplasia of the entire gland. A vacuolar condition of the
anterior lobe cells, considered to be degenerative, was described. Mitotic figures were
generally more abundant in rats injected for shorter periods.
Photographs are reproduced and references are appended.

Production of Estrogenic Hormone by a Transplantable Ovarian Carcinoma, L. C.
An ovarian carcinoma arising in a mouse of the CBA strain, presumably from
follicle tissue, was carried through seven transplant generations. Tumors were ob-
tained in 32 of 99 mice. Vaginal smears were made from 3 mice and all were estrous in
character, while in the mammary gland rudiments of 4 implanted male mice there
developed extensive duct systems similar to those observed in male mice bearing ovarian
grafts or receiving optimal amounts of estrogenic hormones. These observations in-
dicate the production of estrogenic hormone by the tumor. Photomicrographs and
references are included.

Influence of the Gonadotropic Hormone on the Shope Rabbit Papilloma, L. Cruvheil-
hier, J. Haguenua, G. Thieulin, and C. Viala. Influence de l'hormone gonado-
trope sur l'évolution de la tumeur de Shope du lapin, Compt. rend. Soc. de biol. 127:
485-486, 1938.
Beginning ten days after inoculation of Shope papilloma into an unspecified number
of rabbits, five injections of gonadotropic hormone were given at intervals of three days.
Growth of the papillomas was arrested after eighteen days; regression started after
three weeks and was complete in a month. Growth proceeded normally in control
rabbits and in rabbits injected with a total extract of anterior pituitary or with pitui-
tary lactogenic hormone (prolactin).

Influence of Tumors on the Reaction to Gonadotropic Hormone, J. Flaks and A. Ber.
Influence des tumeurs sur la réaction de l'hormone gonadotrope, Compt. rend. Soc.
Gonadotropic hormone (antelobin "Byla" or pregnyl "Organon"), in doses which
caused luteinization in the ovaries of almost 100 per cent of normal immature mice, had
no effect on mice with transplanted tumors provided the weight of the tumor was not
less than about one fifth of that of the mouse. [See also following abstracts.]

Failure of the Reaction to Gonadotropic Hormone in Presence of a Tumor, J. Flaks
and A. Ber. Disparition de la réaction de l'hormone gonadotrope en présence
Gonadotropic hormone was injected into immature mice which had been grafted
with Ehrlich sarcoma. When the tumors were large, the ovaries and vagina failed to
respond to the hormone as they do normally in the Aschheim-Zondek test. [See follow-
ing abstract.]

Mechanism of the Suppression of the Response to Gonadotropic Hormone by Tumors,
J. Flaks and A. Ber. Sur le mécanisme de suppression de la réaction de l'hormone
gonadotrope par les tumeurs, Bull. Assoc. franç. p. l'étude du cancer 27: 239-249,
1938.
As previously reported (see preceding abstract), immature mice bearing a trans-
planted sarcoma failed to respond normally to gonadotropic hormone. This result is
now confirmed and extended. Rats bearing Jensen sarcoma were similarly unrespon-
sive to the hormone. No appreciable quantity of hormone was detected in tumors
removed from mice which had received large doses of gonadotropic hormone, and the
hormone was not inactivated by contact with tumor tissue in vitro for twenty hours at
37° C. It is concluded that the tumor does not adsorb or inactivate the hormone but
secretes a toxic substance which so damages the ovaries that the latter cannot respond
in the usual way. No doubt other organs are attacked, but the epithelium of the graafian follicles is especially sensitive. Lesions of the ovary were not detected histologically. The toxic action is not peculiar to tumors, for the reaction to gonadotropic hormone was similarly suppressed by injections of alcohol. Injections of blood or urine from human cancer patients did not suppress the reaction in immature mice, but no doubt the concentration of toxic substance was low, since the ratio of tumor weight to body weight in man scarcely ever reaches $1:5$, at which ratio the suppression of the reaction in mice becomes apparent.

L. Foulds


During a study of the morphology of the pituitary gland in rabbits, in which, as is well known, rapid changes in gonadotropic potency take place after mating, the authors developed a special technic using a fixative consisting of 90 parts of a saturated solution of mercuric chloride in 0.9 per cent sodium chloride solution mixed with 10 parts of 40 per cent formaldehyde. With this fixative and Heidenhain's azan staining technic a new type of granular cell, which takes a deep red stain, was observed. The ordinary acidophils are orange, the basophils deep blue and light blue, and the chromophobes light pink or colorless. The specific cells of the pars intermedia stain blue and the chief cells of the pars tuberalis are colorless to light pink. Photomicrographs are included to show the results of the stain. A few carmine-staining cells can be found in pituitaries of castrate and immature rabbits. Their numbers increase as the animals approach sexual maturity. After mating they increase in size and number and the carmine stain is deeper. The precise relationship to the pituitary hormone known to be secreted after mating is not yet clear.


The authors point out that the relationship between the glands of internal secretion and the reticulo-endothelial system has not been examined systematically, although endocrine functions have been attributed to the reticulo-endothelial system and for experimental and therapeutic purposes extracts have been prepared from the tissues where this structure is most concentrated. The present paper is concerned with the influence of pituitary extracts upon the reticulo-endothelial system. The method selected for assessing the activity of the reticulo-endothelial system was first published by Adler and Reimann (Zitschr. f. d. ges. exper. Med. 47: 617, 1925) and modified by Stern and Willheim (Ztschr. f. d. ges. exper. Med. 97: 354, 1935). The experiments were carried out on rabbits and the method of test was as follows:

A small volume of blood is withdrawn from the ear vein (sample A). Then 2 c.c. per 1000 gm. body weight of freshly prepared 1 per cent Congo-red solution is injected intravenously. A second sample (B) of blood is drawn six minutes after injection of the dye. A third sample (C) is taken one hour after injection of the dye. A known quantity of the dye is added to sample A, which then serves as a standard, against which the concentration of the dye in samples B and C, respectively, is determined colorimetrically. The difference (B–C), expressed in percentage of the value of B, measures the rate at which the dye has disappeared from the circulation. This may be called the Congo-red index. The hormone is obtained from pituitary glands of cattle and three types are employed: (1) purified extracts with slight gonadotropic activity, prepared by double extraction of anterior lobes; (2) gonadotropic extracts; (3) extracts with pronounced thyrotropic, and some gonadotropic, activity.

Charts show the effects of injection of these hormone-containing extracts upon the reticulo-endothelial system as measured by the Congo-red test. Certain of the extracts were found to increase the functional activity of this system. In general, the gonadotropic extracts did not affect its activity, while the anterior lobe of the pituitary appears to exert a controlling influence. There are two derivatives in this mixture, one which increases the activity and the other which decreases it. Details as to extraction and general technic must be read in the original.

The authors state that they have isolated from the anterior pituitary two substances that affect the activity of the reticulo-endothelial system. They now find that fresh rabbit or horse blood contains the same substances. After extraction by methods described in the paper abstracted above, they tested the effect on a few human beings. Extract of blood from healthy persons raised the Congo-red index and from persons with a variety of disease conditions either raised the index or was negative. Blood from persons with malignant disease was either negative or lowered the index. The number of human bloods tested is not given.

Studies on the Pituitary Weight of Rats Inoculated with a Transmissible Tumor, J. M. TWORT AND M. LASNITZKI. Endocrinology 23: 87–90, 1938.

One hundred and sixty-three albino rats were subcutaneously inoculated with Jensen rat sarcoma by the injection of minced material. They were killed in groups from thirteen to twenty-four days after inoculation. The weight of the tumor, the body weight after removal of the tumor, and the weight of the pituitary gland were determined. The pituitary gland was dehydrated with alcohol, and its dry weight determined. On an average the ratio of the pituitary dry weight to the brain weight was usually smaller in the groups of animals bearing tumor than in those without. Taking all the animals together, the average decrease was about 23 per cent among the males, and 17 per cent among the females. The authors suggest that a connection may exist between the diminution of the pituitary gland and the increase in the size of the spleen which has been observed in tumor-bearing animals. In all groups except one, the weight of the female pituitary was found to be greater than that of the male organ. The average increase was about 45 per cent among the tumor-bearing animals, and about 34 per cent among animals not carrying tumors. These results can be considered as true only for grafted tumors.


Hypophysectomized and non-hypophysectomized rats bearing Walker tumor 256 were given, by stomach tube, a mixture of powdered whole milk, glucose, yeast extract, and water. The small slow-growing tumors of the hypophysectomized animals contained significantly larger amounts of glycogen than the tumors of the intact group, while the liver and muscle values were not significantly different.

In a second experiment, in which a high caloric diet was administered by stomach tube, the tumors of the hypophysectomized animals contained about four times as much glycogen as in the earlier experiment while the tumors of the control series contained only twice as much as formerly. The difference in the two groups is unexplained.


This paper contains no new facts.


Three years ago one of the present authors and his colleagues found that tumor extracts can produce considerable amounts of lactic acid from hexosephosphates. The behavior of tumor extracts was considered to differ from that of muscle extracts in several ways, and it was concluded that “carbohydrate breakdown in the two tissue extracts proceeds along different paths.” In the same year, however, the Boylands in England arrived at the opposite conclusion, namely that “the rapid breakdown of hexosediphosphate by tumour extracts along the same paths as occur in muscle extracts

The present paper submits further evidence in support of the original contention of Scharles, Baker, and Salter. It is shown that tumor extracts (mouse sarcoma 180) fail to catalyze the reaction between triosephosphate and pyruvic acid which plays such an important part in the accepted scheme for muscle glycolysis (Meyerhof and Kiessling: Biochem. Ztschr. 283: 83, 1935-36). That glycolytic reactions in muscle and tumor follow different pathways at certain stages is also confirmed by the finding that different products are formed from glycogen by the two respective tissue extracts in the presence of phosphate and NaF. The authors find themselves in agreement with Tsuzuki, (J. Biochem. (Japan) 23: 421, 1936. Abst. in Am. J. Cancer 29: 575, 1937) with reference to the pyruvic acid mechanism, insomuch as the mechanism for its formation and utilization (in conjunction with glycerophosphate) is defective in at least three essential stages. The glyoxalase mechanism of tumour glycolysis (Mawson: Biochem. J. 30: 1592, 1936. Abst. in Am. J. Cancer 29: 575, 1937) is considered of doubtful importance as a physiological pathway, both because it is demonstrable only at unphysiological temperatures and also because its occurrence in such a wide variety of tissues suggests that it has little to do with the peculiarities of tumor glycolysis. A. F. WATSON


Fischer has expressed the view (Am. J. Cancer 31: 1, 1937) that the cancer cell may be present in the body a long time before the development of malignancy. What may be termed a realization factor, such as old age, chronic proliferative activity, influence of hormones, etc., is necessary for a malignant tumor to develop.

In support of Fischer's view, Ellinger cites the delayed development of the Ehrlich mouse carcinoma. While this tumor usually develops in from two to four weeks after inoculation, he has experienced cases where six, eight, ten, twelve, or even sixteen weeks have elapsed before the appearance of a neoplasm. This delay may amount to one sixth of the whole life of a mouse. In comparison with the duration of human life, this would mean a dormant period of ten years, which is in good agreement with our experience of the development of x-ray carcinoma. [This is not a very good argument for Fischer's view, for metastases in man may also remain dormant for many years. The real difficulty for Fischer's thesis lies in the production of all sorts of animal tumors by the carcinogenic hydrocarbons in sites where the chemical is deposited and where the tumors never occur spontaneously.—Ed.] A. F. WATSON


A pregnancy prior to the development of tar papilloma and cancer did not influence the course of the growths in white mice. There was, however, some acceleration of the transformation to cancer when pregnancy occurred subsequent to the appearance of papillomata. Cancer developed in 8 (73 per cent) of 11 animals with a pregnancy during the five to eight months of tarring, and in 9 (41 per cent) of the 22 controls (males or non-pregnant females). [Such small series, however, cannot be considered as statistically significant.] A bibliography is appended. MILTON J. EISEN


Injection of the papilloma virus into the blood stream of rabbits previously tarred on the ears for one and a half to three months has been found to stimulate the growth of tar warts, with the production in some cases of squamous-cell carcinoma (Rous and Kidd: Science 83: 468, 1936. Abst. in Am. J. Cancer 27: 758, 1936). The authors
have now studied the effect of the virus in vitro on portions of tissue taken from the tarred ears of rabbits, both with and without warts. Such tissue was steeped in Tyrode solution or in Berkefeld filtrate of Tyrode solution containing potent virus and then implanted in the leg muscles and subcutaneous tissues of the hosts, after which tarring was continued for a few days because of its presumptive general influence favoring proliferation. No tumors were produced by any of the tissues steeped in Tyrode solution alone. Of the virus-treated material, tarred skin free from warts regularly gave rise to papillomatous nodules, while the warty tissue produced papillomatous nodules in a considerable number of cases and malignant tumors in a few instances.


Intratumoral injections of a saline or an alcohol-acetone extract of fresh human placenta had no effect on the growth of a transplantable rat sarcoma. Milton J. Eisen


Young rats aged fifteen to twenty-two days were given a single general roentgen irradiation of 540 r, which is half the lethal dose. Implants of Jensen rat sarcoma inoculated three days later grew more slowly than in control rats but metastasis occurred earlier. In other experiments, the full lethal dose of x-rays in a single general application was given to rats bearing Jensen rat sarcomas. Pieces of tumor were removed at intervals of one to seventy-two hours after irradiation and implanted into other rats. The tumors which had remained in the animals for the shorter periods developed normally but those which had remained longer grew much more slowly. L. Foulds


Large quantities (70–80 c.c.) of blood were interchanged between normal rabbits and rabbits hyperimmunized against Brown-Pearce rabbit carcinoma without affecting the susceptibility of the rabbits to implants of the tumor. Massive infiltration of the skin of normal rabbits with immune serum did not prevent the growth of implants. Apparently the resistance to re-inoculation which results from resorption of the Brown-Pearce tumor is not associated with protective antibodies in the blood. L. Foulds


Aqueous extracts of Guérin's transplantable epithelioma of the rat contained a fraction, precipitable by hydrochloric acid, which possessed antigenic properties. After filtration through a Chamberland L1 candle the sensitizing power was increased. Apparently the filtration removed substances which inhibited sensitization. L. Foulds


In some earlier experiments it was found that lipid fractions isolated from an active preparation of Rous chicken sarcoma with pentane and chloroform as solvents failed to produce tumors in young birds, while with the residue of the pentane extracts tumors were invariably obtained. The authors have now produced typical Rous sarcomas with as little as 1 mg. of pentane- or chloroform-pentane-extracted chicken tumor powder.
This evidence that the active agent resides in the protein fraction was strengthened by experiments with heated tumor powder. Dry heated powder produced tumors, but powder heated in the presence of water was without effect. In other words, when the protein was coagulated the activity was lost, but when denaturing of the protein was limited by dry heat, activity was retained.


By differential ultracentrifugal methods the authors have isolated from the virus-induced papillomas of western cottontail rabbits a protein of high molecular weight which proved to be associated with the infectiousness of the disease. The minimum amount of purified protein needed to produce warts visible seventeen days after inoculation was between $10^{-7}$ and $10^{-8}$ grams, whereas between $10^{-8}$ and $10^{-9}$ grams of total protein in saline extract was required for comparable infection. The heavy protein was several thousand times as infectious as the wart tissue from which it was derived.

From non-infectious warts produced in domestic rabbits by active extracts of cottontail papillomas no heavy protein could be isolated.


On the acid side of pH 7 the stability of the Shope papilloma virus remains high until at a pH between 2.9 and 3.3 it is suddenly lost. It is at just this point that the protein molecule splits. Inactivation on the alkaline side also coincides with the fragmentation of the protein molecule, at pH 10.1-10.2.


If a crystal of nickel chloride be placed in a test tube and an aqueous solution of potassium silicate added, the crystal "buds" and sends up a green vertical stem. When serum is carefully added, a vesicle forms at the junction of the two fluids and the form of the vesicle seems characteristic for the nature of the protein medium used. Serum from normal rabbits and serum from rabbits with cancer of the testes [?Brown-Pearce tumor] produced vesicles of different form. Although it is not yet possible to generalize and assert that the method is diagnostic, it can be said that cancer serum has a different micellar dispersion than normal serum.

L. Foulds


Isolated hearts removed from guinea-pigs bearing transplantable liposarcoma showed a reaction similar to anaphylactic shock when extracts of the tumor were added to the perfusion fluid; hearts from normal guinea-pigs did not react. Comparable results were obtained with fragments of intestine.

In other experiments guinea-pigs were inoculated with the tumor and also injected with extracts of organs from rabbits which had received repeated injections of tumor extracts. The hearts and intestines from guinea-pigs with growing tumors reacted strongly to tumor extracts and much less strongly to the organ extracts. Hearts and intestines from guinea-pigs in which tumor grafts did not grow reacted more strongly to the organ extracts than to the tumor extracts. It is concluded that tumor-bearing animals are rendered anaphylactic against the tumor and are slightly sensitized against the second antigen (i.e. organ extracts of rabbits injected with tumor extracts), while animals resistant to the tumor are rendered anaphylactic to the second antigen but acquire an immunity against the substances of the grafted tumor.

[It seems to the abstractor that vital controls are lacking. The only recorded experiment with normal tissue extracts was made on an animal which had received a
tumor graft (which did not grow) and also an injection of the second antigen; the isolated heart failed to react to a tumor extract but reacted "avec une vitesse et une violence remarquable" to an extract of normal rabbit spleen.] L. Foulds


The author has tested the effect of the oral administration of a variety of antibacterial and related chemical substances on the rate of growth of spontaneous mammary carcinomata and a grafted tumor (Crocker sarcoma 180) of the mouse. The daily dose consisted of 0.5 c.c. of a suspension of the substance ground with water and gum tragacanth. This dose was always less than one quarter of the toxic dose. Four mice with spontaneous neoplasms and 5 with grafted tumors were employed in each case. Before and after treatment the tumors were measured three times a week by means of calipers, the sum of the length and breadth being taken as an indication of their size. The survival periods of the animals varied from fifteen to sixty days. A few of the twenty-three compounds tested were found to inhibit the growth of the Crocker sarcoma and to cause regression of the spontaneous tumors. The most effective of these, in the author's opinion, were pp'-diaminodiphenylsulphoxide and sodium sulphanilylsulphanilate. The latter compound has been stated by Dochez and Slanetz (Science 87: 142, 1938) to be of value in the treatment of canine distemper, and Levaditi, Girard, Vaigmann, and Richard (Compt. rend. Acad. sc., Paris, 205: 1018, 1937) have claimed that 4-nitro-4'-aminodiphenylsulphoxide is effective against gonococcal infections. In those of the author's animals which survived, in which measurements were made after the treatment stopped, the rate of growth of the tumors returned to normal, indicating the failure of the compounds to produce a permanent inhibition of growth.

A. F. Watson


A slowly growing osteogenic sarcoma from a female mouse of the C57 Black stock was broken into fragments, which were implanted in 4 mice. The mice were killed fourteen weeks later. In one the implant was apparently unchanged in size and consistency. In the other 3 tumors were obtained which, eleven months after the death of the original female, were in their ninth, fifth, and seventh transplant generations. Photomicrographs are reproduced.


A transplantable carcinoma of the ovary proved to be capable after the second transfer generation of growing only in male mice. Of 104 males of the CBA strain implanted, all showed tumor growth, whereas a positive result was obtained in only 1 of 58 females. The significance of this is regarded as questionable.


Eggs of Paracentrotus lividus, Echinus microtuberculatus, Psammochinus miliaris, and Pholas candida were suspended in solutions of monobromo- or monoiodo-sodium acetate, the latter being the more active. In a suitable concentration the mesenchymatous cells which normally immigrate into the blastocele cavity begin an unceasing proliferation; they fill the cavity, prevent gastrulation, and assume an atypical form. The cells exert a steadily increasing pressure on the ectodermal wall of the larva and finally disorganize it, breaking through to the external surface, where they become detached. The larva gradually loses the greater part of its cellular elements and perishes. Thus the organism is destroyed by the excessive and atypical proliferation of a single tissue without power of regulation. The process closely resembles malignant neoplasia.
and the physio-pathological basis of the two phenomena may be of the same nature, depending on a disequilibrium between the catalysts in cells of embryonic type.

L. Foulks

Heredity of Cancer in a Line of Mice: Plasmo-chromosomal Factor, L. Mercier.

From his study of a line of mice with a high incidence of lymphosarcoma, Mercier concludes that the hereditary factor is not a chromosomal gene, though it is attached to the x chromosomes. He supposes that each x chromosome carries a "unité philoncogénique" which is not a gene and alone does not determine tumor development. In mice of the lymphosarcoma strain the cytoplasm of the germ cells elaborates plasmatic units which are equally "philoncogéniques"; during the interactions between nucleus and cytoplasm plasmatic units may become fixed on the chromosomal units. In the lymphosarcoma line each chromosomal unit may fix one or two, but not more, plasmatic units, and a cell whose nucleus contains two units is potentially cancerous. On these assumptions one-third of the males and two-thirds of the females should develop tumors; the observed numbers were 72 tumors in 211 males and 165 tumors in 254 females. The results of crosses between the tumor line and a non-tumor line are consistent with the assumption that the chromosomal units but not the cytoplasmic units are present in the x chromosomes in the non-tumor line.

L. Foulks


A population comprising 193 mice was produced by crossing a non-cancer line with a cancer line having an oncogenetic index of $\frac{1}{2}$ (i.e. 50 per cent with lymphosarcoma). Nine mice of this population developed lymphosarcoma. The author calculates on the basis of his previous observations (Compt. rend. Soc. de biol. 124: 403, 1937. Abst in Am. J. Cancer 31: 501, 1937) that, although the incidence of lymphosarcoma is much lower in the population than in the cancer line, the oncogenetic value of the cancer line has not changed. It seems difficult to doubt the hereditary determination of lymphosarcoma in mice.

L. Foulks


In the sixth passage of a transplantable mammary fibro-adenoma of the rat a tumor appeared which in parts had the appearance of fibro-adenoma together with squamous metaplasia of excretory ducts and sebaceous metaplasia of glandular tissue. The sebaceous formations were identical with the sebaceous glands of the skin, and all stages in their development from the canalicular epithelium were traced. The fibro-adenomas of the breast have a remarkable plasticity and the capacity for sebaceous metaplasia must be recognized, though the authors had not seen it previously in normal or pathological mammary glands and have found no reference to it in the textbooks.

There are five photomicrographs.

L. Foulks

Carcinoma of the Kidney in the Leopard Frog: The Occurrence and Significance of Metastasis, B. Lucké.

In an earlier study of renal carcinoma in the leopard frog (Rana pipiens) no metastases were observed in a series of 158 cases (Am. J. Cancer 20: 352, 1934). In a second series 3 instances of metastasis were found (Am. J. Cancer 22: 326, 1934), and the author now records 22 further examples in a series of 362 cases. The secondary growths were associated with unusually large primary tumors, usually arising from both kidneys; they preserved unaltered the structure of the parent growth. Numerous photomicrographs are included and there is a bibliography.
Melanotic Tumors of Fishes, R. P. DOLLFUS, J. TIMON-DAVID, AND M. MOSINGER.

A hitherto undescribed type of pigmented tumor was found in the fish Epinephelus gigas. The primary growth was almost certainly of branchial origin. In addition to tumors in the branchial region there were smaller subcutaneous tumors in the caudal, anal, and dorsal fins and in the liver and spleen. Some of the tumors, especially in the branchial region, were plainly epithelial, resembling malpighian tumors of mammals. Some of the cells were pigmented and, since pigmentation seemed associated with an eosinophilic degeneration, it appeared as if the melanin granules represented a degenerative phenomenon. In the liver and spleen, however, though almost all the tumor cells were pigmented there was no sign of a degenerative process; careful examination revealed rare tumor nodules with cells like those in the branchial tumors. None of the tumor cells resembled the melanocytes characteristic of lower vertebrates. Transitions were found between epithelial cells devoid of pigment and melanotic cells in which the abundance of pigment was explicable only by an active production of melanin. The most likely hypothesis is that the tumor cells of epithelial origin acquired secondarily the power of forming melanin. Previously described melanomas in fishes were predominantly sarcomatous in appearance. It is suggested that the present tumor reopens the problem of the histogenesis of melanoblastomas and that of the specificity of the melanin-forming function.

L. FOULDS


Post-mortem examination of a ten-year-old Shorthorn cow, which was killed two months after the birth of an apparently normal calf, revealed several tumor-like masses in the abdominal cavity. In addition, two large growths were found in the diaphragm and one in the pelvis—the latter perhaps of primary importance in relation to the symptoms of paralysis which the animal had shown for about two weeks before being killed. There were at least five neoplasms in the stomach and smaller ones occurred in the intestine. The largest one, about 6 inches in diameter, was situated on the anterior end of the rumen, immediately above the reticulum. Another large tumor was located between the parietal peritoneum and the first, second, and third lumbar vertebrae. When the vertebral canal was opened, the space around the spinal cord was found to be filled with new growth, which extended as far forward as the last thoracic vertebra. Practically all the abdominal and pelvic lymph nodes were enlarged. Microscopic examination showed the neoplasm to be a lymphocytoma.

[Other types of tumor of the cow have been described from time to time in the literature. More than thirty years ago, Trotter (J. Comp. Path. 17: 129, 1904; 18: 143, 1905) showed that malignant adenoma of the liver parenchyma, and carcinoma of the uterus was by no means uncommon. Murray (3rd Scientific Report, Imperial Cancer Research Fund, 1908, page 41) cited eighteen cases of tumor in this species of animal. See also Trotter: J. Comp. Path. 24: 1, 1911.]

A. F. WATSON


Versluys criticizes the statistics on cancer in twins published by Peyron and Kobozzieff (Bull. Assoc. franç. p. l'étude du cancer 26: 93, 1937. Abst. in Am. J. Cancer 31: 308, 1937) and does not accept the demonstration that corresponding tumors are more frequent in monovular than in binovular twins.

L. FOULDS

The author describes in detail the demonstration of a melanotic pigment which is fixed on protein complexes in the blood and urine of cancer patients. He states, without giving the evidence, that the extent of the black flocculation obtained is in direct relation to the state of evolution of the neoplasm but that the melanin apparently does not play a causal role in cancer.

L. FouLds


Psammocarcinoma is a tumor in which calcium salts are being deposited. The deposition occurs most commonly in the tumor cells, at times in the stroma also, but rarely in the stroma alone. It is considered most frequently a phenomenon that follows regressive changes in the tumor, or it may be associated with disturbances in the calcium metabolism secondary to skeletal metastases. In some instances the cause is not apparent. Necrosis in tumors is a common occurrence compared to the relative rarity of calcification. The deposits may be amorphous or assume the structure of concretions with stratified layers.

The report contains a detailed histological description of four carcinomata containing calcium—a finding which is not usual in this type of tumor. Extensive deposits were observed in an adenocarcinoma of the transverse colon and in the metastases on the stomach wall. The colon and stomach were resected at operation. Smaller amounts of calcium were found in an adenocarcinoma of a bronchus seen at autopsy, a submaxillary metastasis of a squamous-cell cancer of the lower lip (the primary tumor had been treated a year previously by radiation), and a glandular type of breast cancer. The cause of the calcification could not be determined. Photomicrographs are included.

Milton J. Eisen


This is a general discussion on the subject of lymphangioma, adding nothing new.

Seaton Sailer

Tumor Metastasis in a Paracentesis Wound and a Method of Avoiding Such Occurrence, L. Trossarelli. Metastasi neoplastica da innesto lungo il tramite del trequarti usato per la paracentesi e saggio di un mezzo per evitare tale trapianto, Gazz. med. ital. 95: 204–207, 1936.

Paracentesis of the abdomen was necessary at monthly intervals in a woman of forty-eight with a carcinoma of the pancreas and dissemination on the peritoneum and pleura, in order to relieve the rapid accumulation of fluid. Metastatic nodes developed in several of the puncture wounds in the abdominal wall approximately two months following each successive tap. It was noted that a leakage of ascitic fluid had occurred at these sites for twenty-four hours. Later leakage was avoided by replacing the trocar in the cannula prior to removal of the instrument, and instructing the patient to lie on her right side. No tumor nodes occurred following these precautions.

Milton J. Eisen


Forty-one observations of arborescent lipoma of the knee, including the author's case, have been recorded in the literature. His patient was a forty-five-year-old man who had sustained a severe injury to his left knee four years earlier, allegedly dislocating the joint. Seven months prior to admission there were pain and swelling of the joint,
aggravated by movement. A diagnosis of arthritis deformans with marked villous overgrowth of the synovia was made. At operation an arborescent lipoma with considerable fluid accumulation was found. The crucial ligaments had been destroyed. The etiology, pathogenesis, symptomatology, diagnosis, and treatment are briefly discussed. Two x-ray pictures, a photograph of the gross specimen, and six photomicrographs are included.


A woman forty years of age complained of increasing size of the abdomen and at operation a retroperitoneal fibrolipoma weighing 5300 grams was removed. Recovery was uneventful. There are no illustrations.


A woman, whose age is not given, had a soft tumor on the left anterior axillary border, about 7 cm. in diameter. It was not connected with the breast tissue and was said to have been present for only one month. It was removed surgically and was found to be a myxoma arising from the subcutaneous tissues. There are no illustrations.


This is a preliminary note concerning a tumor which is to be described in detail later. The tumor, removed from a boy two weeks after birth, was composed of many tissues, including 2 testes of almost normal structure.


A fifty-year-old man had a tumor on the distal phalanx of the thumb close to the root of the nail. It grew slowly, with occasional pain radiating to the forearm and arm. Under local anesthesia a vascular tumor was removed which was diagnosed as a hemangio-endothelioma. Two photomicrographs illustrate the report.


The Fuchs reaction, based on the assumption that the cancerous patient harbors a proteolytic ferment in his blood serum capable of digesting fibrin and increasing the nitrogenous residue, was employed on a number of proved cases of carcinoma of various origins and in 10 cases of gastric and duodenal ulcer. The former group all showed a more or less intense increase of the residue and 6 of the latter group showed similar changes.

The author concludes that the Fuchs reaction can not be considered as specific for carcinoma unless the serum, acting simultaneously on both normal fibrin and fibrin extracted from the serum of a cancer-bearing patient, increases the nitrogenous residue of the former only.

Copper sulphate and other metallic salts stabilized the antigen used in the author’s diagnostic test for cancer. The results of the test on a large series of cases will be revealed later.


Gricouroff approves, in the main, Geschickter’s classification of lipoid tumors (Am. J. Cancer 21: 617, 1934) but extends the term “embryonic lipoma” to include myxoid lipomas, which are intermediate between the common lipomas and the atypical lipo-sarcomas. In ordinary histologic preparations embryonic lipoma resembles spindle-cell sarcoma poor in collagen or, most frequently, myxoma. Mucicarmine always stains the interstitial substance to some extent but never stains the intracellular vacuoles. The nature of the tumors is revealed by staining frozen sections for fat, which is present in most, if not all, the tumor cells. The fat appears in young tumor cells as sparse punctate granules in various parts of the cytoplasm; the droplets increase in size and number and fill the cells.

Though the tumors are often encapsulated and devoid of cytologic signs of malignancy, they may recur locally and metastasize. There was recurrence in each of the three cases studied by the author. The precise diagnosis of these tumors is not of great practical importance but it detaches some tumors from the ill-defined group of myxomas.

The histologic appearances are illustrated by two drawings, one of them in color, and there is a short bibliography.


The author attempted to attack diffuse carcinosis of the pelvic cavity by the injection of radon gas in Ringer’s solution. As a preliminary, attempts were made to determine the lethal dose on Paramecium caudatum. It was necessary to use a concentration of at least 1:400 of radon in Ringer’s to kill the paramecium. The time of exposure is not given.

Secondly 40 millicuries in 10 c.c. of a normal saline was injected into the peritoneal cavity of a dog, with no clinical effect. A second injection was made with 83 millicuries of radium. The dog died 62 days after the final injection. Diffuse fibrosis and some thickening of the vascular walls were the only lesions.

THE SKIN


Four hundred and one patients with primary cancer of the skin were admitted to the radiotherapy department of the University Skin Clinic of Berlin in 1931–34. Of these, 56 per cent were women; the age of greatest morbidity was the seventh decade for both sexes. Seventy-nine per cent of the tumors were basal-cell epitheliomas, 15 per cent squamous-cell, 2 per cent mixed types, and 0.25 per cent intermediary forms. In 38 per cent of the cases the diagnosis was proved histologically. Multiple tumors were noted in 6 per cent of the patients. Ninety-five per cent of all the tumors were limited to the skin of the head. Follow-up was complete in 81 per cent. Eight per cent died. The absolute number of cures was thus 275 out of 401 cases or 69 per cent, those disappearing from sight being considered as uncured. Excluding this latter group, the cures are 275 out of 324, or 85 per cent. Of 50 recurrences repeatedly treated, 28 remain uncured. Of the basal-cell epitheliomas, 74 per cent were cured, while the squamous-cell group showed 45 per cent cures.

Seaton Sailer

Radium application is the treatment of choice for cancer of the skin. Surgery should be limited to biopsy. The electric cautery or electrocoagulation may be employed in the rare case of a tumor that is too extensive for radium therapy. A disadvantage occurs, however, in that a neoplasm may become more resistant and healthy tissue less resistant to the subsequent application of radium. In the author’s opinion the results obtained with x-ray therapy are not as favorable as with radium. The use of individual modelled forms to contain the element has been the most successful method of treatment, from the therapeutic and cosmetic point of view. The direct insertion of radium needles in the tumor has been practically abandoned. In judging the dosage it is advantageous to secure the maximum possible effect at the initial application, for there is a tendency to diminished radiosensitivity following each treatment. Unders dosage is more dangerous than moderate overdosage.

Photographs of patients with various types of cancer of the skin (face, male and female external genitalia) before and after successful treatment are included. The tumors did not recur after several years. The author states that he has obtained 90 per cent cures in the series of cases selected for treatment.

Milton J. Eisen


As a result of a motor accident the skin of the face was denuded over an area about 3 mm. in diameter; the victim was a man aged forty-five. The wound healed normally, leaving a small depression. About six months later the site became inflamed, with redness and serous discharge. These signs recurred at varying intervals and became more frequent after about two years. A biopsy performed three years after the accident revealed an epithelioma.

L. Foulds


A dog aged two and one-half years had multiple cutaneous tumors and had to be destroyed; at autopsy infiltrating nodules were found in the muscles but none in the viscera. The histologic diagnosis was uncertain, the two possibilities being monocytic sarcoma and nevocarcinoma without pigment. The authors favored the second diagnosis because they observed a somewhat similar case of multiple malignant tumors of the skin in a native woman aged thirty-two and silver impregnation revealed melanin granules in some of the cells of a nodule removed at biopsy. Nevocarcinomas formed about 1 per cent of all malignant tumors in Indo-China. Contrary to what has been supposed, the colored races are not free from this type of neoplasm, which occurs at least as often as in the white race.

L. Foulds


Five cases of Spiegler’s tumor (cylindroma) were found among 250,000 admissions to the University Skin Clinic in Berlin and are briefly presented, as well as 2 cases of epithelioma adenoides cysticum. Among the former group was one case giving a history of the disease in nine members of the family over four generations. The histologic structure, terminology, hereditary characteristics, prognosis, and therapy of cylindromas are discussed and photographs of patients and photomicrographs are included.

Seaton Sailer

A man forty-eight years of age had numerous small angiomas on the mucous membranes and skin. His only symptom was frequent nosebleed. There was no family history of similar cases. The connection of this condition with liver disease is discussed. One photograph is included.

Edward Herbert, Jr.


The author observed telangiectatic spots on the neck in 54.6 per cent of the women, 37.5 per cent of the men, and 50 per cent of the children of both sexes examined in his private practice in six years. Two observations on adults with spina bifida showed a rich capillary bed in the posterior neck region. The author believes that these nevi do not represent a developmental failure but rather a persistence of blood vessel growth that plays an important part in the covering of the nervous tissue of the cord.

Seaton Sailer


A seventy-two-year-old man had a hard, bluish, sessile tumor of the skin some 8 or 10 cm. in diameter, at the level of the angle of the scapula on the left side. He stated that this had been noticed eight years before as a painless movable tumor measuring about 1 x 1 cm. and had taken on sudden growth only eight or ten days prior to his admission to the clinic. A biopsy showed the tumor to be a sarcoma, and radium treatment was instituted. As growth was not checked, a wide excision was performed and a 14 x 9 cm. tumor removed. It was composed of alternating portions of spindle-cell sarcoma with numerous mitoses, cartilage, and bone. The author concludes that it was an ossifying fibrochondrosarcoma beginning in a misplaced cartilage rest. Photomicrographs are included.

Seaton Sailer


A forty-three-year-old man with a number of small xanthomatous nodules in the buttocks, knees, and elbows was found to have greatly increased amounts of cholesterol, lecithin, and cholesterol ester in the blood. The skin nodules likewise showed cholesterol. The vitamin A content of the serum was greatly increased, but with a fat poor diet and insulin this was reduced and the skin nodules disappeared. Although the liver and pancreas functions were apparently undisturbed, the author suggests that vitamin A normally stored in the liver may, through some disturbance of that organ, become excessive in the blood stream with resulting changes in fat synthesis leading to deposits in the skin tissues.

A photograph and photomicrograph are included, and references are appended.

Seaton Sailer

The Breast


The author discusses Ewing's and Jüngling's classification of breast carcinomas, the anatomy of the breast with particular emphasis on lymphatic drainage, the operative contraindications, and surgical and radiological treatment. He concludes that, although results are at best disappointing, the method of choice following early diagnosis is radical surgery followed by x-ray therapy.

Seaton Sailer
Cancer of the Breast: Present Status of Surgery and Irradiation Therapy, F. E. Adair.


This is a report of the results of irradiation by x-rays or radium in a series of 200 cases of cancer of the breast subsequently treated by radical amputation. In 47 cases, or 23.5 per cent, microscopic examination of the surgical specimen showed complete destruction of the carcinoma as a result of the preoperative irradiation. In 104 of the cases the axilla was involved, and among these only 8 showed complete disappearance of the tumor.

Since these cases have been treated within the past three and a half years no attempt is made at evaluation of radiotherapy as a supplement to surgery. Complications of irradiation and the difficulty of subsequent wound healing are discussed.


A nineteen-year-old patient, in her first pregnancy, developed an enlargement of the right breast with all the classical signs of inflammation. Incision and drainage failed to cause improvement and following parturition a simple mastectomy was performed. Examination of the breast showed an infected fibro-adenoma weighing 2600 grams. There were no signs of malignancy and convalescence was uneventful. There are no illustrations.


This is a single case report of a scirrhous carcinoma of the axillary tail of the right breast in a woman forty-seven years of age. It presented no unusual features. There are no illustrations.


This paper contains a description of 2 typical cases of Paget's disease of the nipple. The first patient was a woman of forty-two, in whom the condition had been present for eight months and was therefore in an early stage of development. Treatment consisted of excision of the involved area followed by irradiation. The woman was free from disease after five years. The lesion in the second patient, a woman aged forty-seven, was of seven years' duration. The skin changes were more advanced and a mass was palpable in the breast (apparently a cancer). The axillary nodes were involved. Radical mastectomy was performed, but a local recurrence and vertebral metastases developed after eight months.


Typical mammary cancers were observed in two natives of Madagascar. Each was ulcerated and situated in the left breast. One was in a man aged forty-two and had been present for three and one-half years; the patient had testicular atrophy of unknown origin. The other was an inoperable growth, present for one year in a man aged fifty-five. These cases are discussed and compared with those previously reported.

The author observed 11 cancers of the breast in Madagascar and 2 of them were in men, a much higher proportion than found elsewhere. There was no history of traumatism, gynaecomastia or hereditary predisposition in either patient but the testimony of natives, especially about long-past events, is not always reliable. In view of recent observations on the rôle of hormones in the production of cancer of the breast, the atrophy of the testes in one of the patients is perhaps significant.

There are three photomicrographs, a photograph of one of the patients, and a bibliography.
THE EYE

Paths of Extension and Generalization of Melanosarcoma of the Choroid, F. Cozza.


This paper contains a general discussion of melanosarcoma of the choroid and a detailed histological study of 5 cases, with special reference to the methods of extension of the tumor. Enucleation of the affected eye was performed in all patients. At the time of operation the condition was in a relatively early stage of development in 4 cases; the diameter of the growth varied from 8 to 16 mm., and there was no evidence, grossly, of invasion of the other layers of the eye or of the optic nerve. In the fifth patient the disease was more advanced and signs of extension were recognized macroscopically.

The tumors were generally round in form, had a sessile base, and protruded into the cavity of the eyeball for a distance of from 4 to 12 mm. Inward extension was limited at this point by the vitreous body, and a tendency to external growth followed. The sclera, however, is extremely resistant to invasion by tumor. The lesion may extend through the entire width of the choroid and stop abruptly at the first connective-tissue layers of the sclera. Tumor cells were completely absent in the latter coat in two of the early cases, and isolated cells only were present among the collagenous bundles of the inner surface in the other cases of this group. The extension probably occurs along the paths of small vessels or nerves. Massive infiltration of the sclera by many tumor foci was observed in the fifth case. There were tumor thrombi in the small veins. The tumor cells of the peripheral invading foci contained less pigment than those of the primary growth. Extrabulbar portions of the growth or metastases may be non-pigmented.

The postoperative course in these cases is not described. Photomicrographs and an extensive bibliography are included.

Melanosarcoma of the Choroid with Non-pigmented Palpebral Metastasis, G. Colombo.


Melanosarcoma of the choroid is reported as rare in young children. The author describes a case in a child of three and a half years in which the tumor had invaded the optic nerve. The eye was enucleated. A non-pigmented metastasis in the upper lid was removed four months later, but this recurred and the child succumbed after five months. No hepatic or cerebral metastases were noted. Photomicrographs are included.

Epithelioma of the Cornea, R. de' Cori.


A primary squamous-cell cancer of the left cornea developed in a man of sixty who had had a bilateral treated trachoma since childhood. The eye was enucleated. The tumor did not recur. Photographs of the eye and photomicrographs are included.

Primary Glioma of the Iris, F. Orzalesi.


A primary localized glioma was removed from the iris of a boy of twelve years. The tumor had been present for a year and a half and most probably developed from embryonal rests of the retina. No recurrence was observed after a period of eight months. Photographs and photomicrographs are included.

Glioma of the Retina Cured by Radiation Therapy, M. Smaltino.

Considerazioni sopra un caso di glioma della retina guarito con la radioterapia, Boll. d'ocul. 15: 551-568, 1936.

A child of six years had visual disturbances of several months' duration, and ophthalmoscopic examination revealed bilateral detachment of the retina. The retinae con-
tained isolated small gray-white spots. The condition was thought to be due to congenital syphilis, since the Wassermann reaction was positive, and some improvement apparently occurred following antiluetic treatment. There was an exacerbation, however, after three months, and tiny nodules appeared in the right iris. A diagnosis of bilateral glioma of the retina was made, and the right eye was enucleated. Histologic examination confirmed the clinical diagnosis, and the metastatic nature of the nodes in the iris. Radiation therapy was then employed in the right orbit and about the left eye. The lesions gradually regressed in the left eye, with the exception of several tiny cicatricial areas that remained in the retina. These may represent healed tumor foci, although absolute proof of the diagnosis of glioma in this eye was not possible. The vision continued normal. There were no recurrences after a period of five years.

An ophthalmoscopic view of the healed condition in the left retina and a bibliography are included.


Report of a case of multiple small endotheliomata situated in the bulbar conjunctiva in a woman of sixty-eight years. The growths were excised and the area cauterized. There was no recurrence after one year. Photographs of the eye and photomicrographs are included.


A subconjunctival lipoma, 1 cm. in diameter, was excised from the right eye of a girl of fifteen. A very small growth had been present since birth and had attained its present size during the year preceding operation. Photographs of the eye and photomicrographs are included.


Tumors of the ciliary body are rarely observed, except as an incidental finding in an eye which has been enucleated for another condition. The author reports a case in a woman of thirty in whom symptoms were produced. Clouding of the vision had been present for one month. An iridectomy was performed, and a benign adenomatous tumor, 4 mm. in diameter, was successfully removed from the region of the ciliary body. Illustrations of the eye and photomicrographs are included.


A mass, approximately 0.5 cm. in diameter, had been present for a year in the region of the lacrimal sac of one eye in a woman of thirty-one. At operation a hemangioma, anterior to the sac, with several ramifications into the surrounding tissues, was removed. There was no recurrence after six months. Photographs of the tumor and photomicrographs are included.


An extra-ocular tumor caused a painful protrusion of the left eye in a man of thirty-two years. After symptoms had been present for two months, enucleation of the eye was done in order to resect a mass attached to the orbit. The tumor had the histological characteristics of a reticuloma. No recurrence was observed after six months. Photomicrographs are included.
ABSTRACTS


This paper contains a description of 6 typical cases of basal-cell cancer of the accessory organs of the eye. The tumor was situated in the upper or lower lid in 3 patients; in the other 3 patients it was in the region of the lacrimal sac. Milton J. Eisen


A man of thirty-six years had a primary melanoma in the tarsus of the upper left eyelid, which attained a diameter of 0.5 cm. in a period of three months. There was extension to the conjunctiva. The tumor was resected, and no recurrence was observed after six months. Photomicrographs are included. Milton J. Eisen


A lymphangio-endothelioma, approximately 0.5 cm. in diameter, was removed from the upper right eyelid of a child of six months. The growth had been present since birth without variation in size. Photomicrographs are included. Milton J. Eisen

THE ORAL CAVITY AND UPPER RESPIRATORY TRACT


True sarcomas of the soft parts of the gums are extremely rare. Gery describes 4 sarcomas which apparently originated from the gum and not from the neighboring bone.

1) An ulcerated growth was removed from the upper gum of a man aged seventy-one; the after-history was not known. The histological diagnosis was histiocytic sarcoma with small cells.

2) A man aged thirty-six had a diffuse growth of the lower gum and enlargement of the nodes of the neck. Radiotherapy was commenced, but had to be discontinued on account of intense neuralgic pains. The patient died less than six months after the onset of symptoms and less than three months after first consulting a physician. The histologic diagnosis, based on biopsy material from the gum and lymph node, was polymorphic histiocytic sarcoma.

3) Biopsy material from a man of unknown age was diagnosed as polymorphous giant-cell histiocytic sarcoma. No clinical details were available.

4) An Annamese man aged fifty-eight had a tumor of the gum invading the maxilla. Histologically it was a histiocytic sarco-endothelioma with giant-cells and fibroblastic properties.

Each tumor illustrated one of the numerous developmental potentialities of elements derived from the reticulum, and the sarcomas of the gum confirmed the reticular origin of benign mesenchymatous epulis. L. Foulds


The term "epulis" includes all growths of the soft tissues of the gums, but the authors confine their attention to the benign mesenchymatous epulis; 230 of the 248 instances of epulis studied by them were of this type. The paper consists of a detailed discussion of the histology and histogenesis of the growth. [The reader is referred to Noeppel's Thèse de Strasbourg, 1938, for a bibliography and an account of the material upon which the discussion is based.]

These growths are always diffuse and unencapsulated. They increase in size by progressive transformation of neighboring normal tissues and are not invasive, their appositional growth distinguishing them from true neoplasms. They are essentially inflammatory reactions, and the cause of the inflammation may be evident. There are gradations in structure from lesions closely resembling granulomas to lesions resembling
THE ORAL CAVITY AND UPPER RESPIRATORY TRACT

neoplasms. Four main types are distinguished: (1) inflammatory, (2) vascular, (3) fibrous, (4) giant-cell. The names indicate predominant features but mixed forms are more common than pure forms. Ossification is common in all forms and especially in the fibrous epulis. It results from metaplasia of connective-tissue cells. Chondrification is rare, but the authors found it in two cases. The giant cells resemble myeloplasces but have a different origin and are therefore termed histioplasces. The epulis, it is held, certainly originates from reticular tissue and is invariably histiocytic. Its extreme polymorphism corresponds with the developmental potentialities of the reticular tissue. The epulis manifests all the characteristics of the reticular and endothelial system except hematopoiesis and facilitates the study of histiocytic tumors.

Fifteen photomicrographs are included.


The authors distinguish two topographic varieties of cancer of the upper lip, differing in their evolution and prognosis. The epitheliomas of the cutaneous portion of the lip rarely involve the lymph nodes and are cured by local irradiation. The epitheliomas of the mucosa or the cutaneo-mucous junction, on the contrary, grow rapidly and involve the submaxillary nodes early; it is essential therefore that treatment should include the submaxillary region. The opinion of Ducuing (Bull. Assoc. franç. p. l'étude du cancer 26: 578, 1937. Abst. in Am. J. Cancer 34: 147, 1938) that the prophylactic removal of submaxillary nodes is unnecessary needs qualification. [See following abstract.]


In this reply to criticisms by Delarue and Fayein (see abstract above), Ducuing reaffirms his belief that, with present knowledge, it is unnecessary to remove submaxillary nodes if they are not enlarged when irradiation of a cancer of the upper lip is instituted. More information about the results of treatment, however, is desirable.


Two instances of leiomyoma of the oral cavity are recorded, bringing the number of reported cases to 6. It is suggested that the paucity of smooth muscle in this region may account for the rarity of such cases. Photomicrographs and references are included.


A woman of thirty years had difficulty in swallowing, of one year's duration, and a left Horner's syndrome. A retropharyngeal mass approximately 4 cm. in diameter was excised. The histologic structure was characteristic of neurinoma. The pharyngeal symptoms disappeared, but the ocular changes persisted. A roentgenogram of the head and a photomicrograph are reproduced.


A laryngeal cancer developed in a man of sixty-six with a chronic lymphatic leukemia. Radiation therapy was given, but the patient died after a short period, of cardiac insufficiency. Photomicrographs are included.
ABSTRACTS

INTRATHORACIC TUMORS


During the twelve-year period from 1924 to 1935 the autopsy records of the hospitals of Brussels showed 103 cases of primary carcinoma of the lung. There was a constant increase year by year both in absolute numbers and in percentage of all carcinomas. Eighty-four of the subjects were men, 19 women. The fifth decade showed the highest incidence; the youngest patient was twenty-eight years old, the oldest seventy-seven. Syphilis, tuberculosis, and influenza did not seem to be predisposing factors, although the majority of cases showed chronic bronchial lesions. In 62 instances the carcinoma was in the right lung, in 41 in the left. A detailed description is given of the anatomic and microscopic types of carcinoma found. Five photographs, 9 photomicrographs, and numerous references are included.

Edward Herbert, Jr.


A man fifty-eight years of age developed a hemorrhagic pleural effusion and hemoptysis. X-ray examination showed a shadow at the right base suggestive of an infarct. At autopsy a small carcinoma was found which had caused a block in the blood vessels so that a large infarct had developed completely obscuring the tumor in the roentgen film. A roentgenogram is reproduced.

Edward Herbert, Jr.


A single case is reported of a carcinoma of the left main bronchus in a man forty-seven years of age. It caused a complete stenosis which was demonstrated by lipiodol injection, Bronchoscopic biopsy revealed the diagnosis. No follow-up is given. Two roentgenograms are included.

Edward Herbert, Jr.


A man thirty-six years of age with a long history of bronchitis developed symptoms typical of pulmonary tuberculosis, pleurisy with effusion, and tuberculosis of several joints. At autopsy he was found to have a primary carcinoma of the left lung with metastases to the joints. There are no illustrations.

Edward Herbert, Jr.


A woman forty-seven years of age complained of pain in the right chest and x-ray examination showed a round shadow believed to be an echinococcus cyst. It remained without change for four years and then began to increase in size. A punch biopsy showed that it was a malignant tumor believed to be a reticulo-endothelioma. No follow-up is given. A roentgenogram and two photomicrographs are included.

Edward Herbert, Jr.

The authors report 2 patients with lung cancer surviving pneumonectomy under local anesthesia and call attention to the simplicity of the technical procedure employed.

Seaton Sailer


This article is a long discussion of a case of carcinoma of the lung in a man forty-seven years of age who died following an unsuccessful attempt at operative removal. There are no illustrations.

Edward Herbert, Jr.


The authors divide pleural tumors into three groups: (1) secondary diffuse pleural tumors; (2) primary diffuse pleural tumors or complex pleuromas; (3) primary localized pleural tumors or connective pleuromas. One example of each of the first two groups is described in detail and previous observations are reviewed. [The value of the historical review is minimized by the absence of a bibliography.] The main conclusions are as follows:

Secondary tumors in the pleura are common, most frequently being derived from a cancer in the lung. The pleura is rarely the sole site of secondary growth. Clinical and anatomical diagnosis of secondary tumor may be difficult, for the subjacent pulmonary cancer may be insignificant and escape notice at autopsy. The authors' case was diagnosed histologically, the primary growth not being observed. The tumor was a non-keratinizing squamous epithelioma. Its distribution in the pleura was attributable to lymphatic spread and not to spread along a free surface; peribronchial spread also occurred in the lymphatics. The pleural extension of many pulmonary tumors is explained by the richness of the pleura in lymphatics.

Primary diffuse tumors are remarkable for the complexity of their histologic structure; consequently at least 30 different names have been attached to them. The authors prefer the term “pleuroma.” The constituents are partly of epithelial type and partly of connective-tissue type. The authors observed fibromatous, sarcomatous, and hemangiomatous tissues in addition to plainly epithelial tissue. The resemblance to mixed tumors was close. The different tissues, however, correspond with the different potentialities of the pleural mesothelium as revealed by studies of comparative anatomy, pathological anatomy, experimental pathology, and tissue culture. The complex pleuromas originate from the pleural mesothelium and show plainly that a single strain of cells can produce elements of epithelial and of connective-tissue appearance.

Primary localized tumors are either benign or malignant growths of connective-tissue type. In view of the formation of fibroma- and sarcoma-like tissue in the complex pleuromas, it must be considered whether the localized connective-tissue tumors may not similarly originate from the pleural mesothelium.

The paper is illustrated by 13 photomicrographs.

Edward Herbert, Jr.


Esophageal cancer ranked fourth in the incidence of malignancy in Venice in the years 1928 to 1933. It was preceded by carcinoma of the stomach, uterus, and lung. Clinically the diagnosis of carcinoma of the esophagus was made in 102 (5.23 per cent)
ABSTRACTS

of 1947 patients with malignant tumors, and the condition was encountered in 72 (8.44 per cent) of 847 necropsies in tumor cases. A detailed analysis of 60 cases is given.

Milton J. Eisen


Cancer of the stomach, unlike peptic ulcer (Boyden and Berman: Radiology 28: 273, 1937), was found not to affect the rate of emptying of the gallbladder.


French writers describe those gastric carcinomas as "ulceriform" which in their clinical, roentgen, and laboratory features resemble peptic ulcers. This is a case report of such a lesion in a man twenty-five years of age. He had typical ulcer symptoms: hyperchlorhydria and a niche on the lesser curvature demonstrable roentgenographically. On an ulcer régime he became symptom-free but x-ray examination showed that the lesion was growing. One year after his first symptom a gastric resection was done and a carcinoma was found. This was limited to the mucosa and had not metastasized to the lymph nodes. The only chance of the early discovery of such a carcinoma lies in repeated x-ray examination regardless of clinical improvement. Six roentgenograms, a photograph, and 4 photomicrographs are included.

Edward Herbert, Jr.

Gastrocolic Fistula Caused by Cancer of the Stomach, M. R. Castex, J. García del Río, and E. S. Mazzei. Fístula gastrocólica por cáncer de estómago, Prensa méd. argent. 24: 1-8, 1937.

A forty-eight-year-old man apparently in good health up until three months prior to admission to the hospital was suddenly seized with a sharp attack of epigastric pain. This radiated to the left flank, was burning in character, and was alleviated only by hot fomentations. Anorexia and constipation became marked and ten days prior to admission, following a sharp attack of epigastric pain, the patient vomited fecal matter. An x-ray film showed a gastrocolic fistula. Autopsy revealed a large gastric carcinoma which had perforated into the colon.

Seaton Sailer


A polymorphous-cell sarcoma of the stomach was an incidental necropsy finding in a woman, sixty-eight years of age, who died of bronchopneumonia. There was a history of vague epigastric distress of one year's duration. The tumor invaded the entire gastric wall, which attained as a consequence a thickness of 1.2 cm. The mucosa was not involved. Several isolated metastatic foci were present in the greater omentum. A photograph of the stomach, photomicrographs, and a bibliography are appended.

Milton J. Eisen


This paper contains a general review of the diagnosis and treatment of malignant tumors of the large intestine and a partial description of 20 cases observed by the author. The growths were localized as follows: rectum, 9 cases; sigmoid, 6; cecum, 3; one each at the hepatic and splenic flexures. Confirmatory histologic examination was made in the 8 patients in whom surgical intervention took place, but the type of malignancy is not recorded. The nature of the operation is not disclosed, but a statement is made that there was one postoperative death, and temporary benefit was obtained in 7 patients. There were 4 further fatalities after several months, and the other cases could not be followed. Several patients received a combination of lead and radiation...
therapy. Some improvement was noted, but a description of its exact nature and of the course of the illness in these patients is lacking. There are no illustrations.

Milton J. Eisen


This paper contains a general review of the clinical and pathological aspects of cancer of the colon, based upon a study of 43 cases (24 males, 19 females). The tumors were grouped as follows: location in the cecum, ascending colon, or at the hepatic flexure, 21 cases; transverse colon, 2 cases; splenic flexure and descending colon, 7 cases; sigmoid, 14 cases. Multiple primary tumors were present in one patient (carcinoma of the cecum and ascending colon). In one instance a coexisting benign adenomatous polyp was found. Histologically 80 per cent of the tumors were adenocarcinoma; the remainder were alveolar forms or colloid cancer.

There were 4 operative deaths among the 25 patients in whom a radical resection was performed. Eleven patients were without recurrences or metastases for variable periods up to five years. Palliative operations were done in 18 cases, with 2 immediate deaths. Two patients survived after ten and twenty-one months; the average length of life in the others was six months.

Roentgenograms, photographs of typical tumors, photomicrographs, and a bibliography are included.

Milton J. Eisen


This is a general discussion on the indications and operative procedures for carcinoma located in the left side of the colon, with a report of a case in a thirty-six-year-old man in whom a total colectomy was performed in four stages for an extensive stenosing carcinoma of the descending colon and sigmoid.

Seaton Sailer


A forty-day-old full-term male infant was admitted to the hospital because of obstipation lasting three days, followed by repeated vomiting, high temperature, weakness, and abdominal distention. Combined rectal and abdominal examination revealed a tumor in the right iliac fossa. At operation the cecum was edematous, friable, and covered with sanguineous exudate. An enterostomy was performed to relieve the obstruction but the child died two days later. Examination of the cecum revealed a 3 cm. submucous cyst filled with transparent mucoid material, encroaching on the ileocecal valve. The wall of the cyst varied from 2 to 4 mm. in thickness and was lined with flattened columnar epithelium.

Seaton Sailer


A woman forty-eight years of age who complained of abdominal pain was found to have a large fibroid uterus. At operation a hysterectomy was performed and a large tumor was removed from the medial surface of the cecum. This was found to be a partially calcified fibromyoma similar to those in the uterus, but there was no evidence that it was of uterine origin. It seemed rather to be a primary tumor arising independently in the cecum. One photograph is included.

Edward Herbert, Jr.

A man twenty-nine years old was found to have a carcinoma of the colon with a fistula into the duodenum. The fistula was diagnosed following a barium enema. The patient died following operation. One roentgenogram is included.

EDWARD HERBERT, JR.


The material here presented is the same as that appearing in the J. A. M. A. 109: 1719, 1937 (Abst. in Am. J. Cancer 33: 304, 1938).


In France it has been considered almost a routine procedure to remove the uterus and posterior wall of the vagina in the resection of the rectum for cancer. Leibovici re-examined the literature and concludes that it is an unjustified procedure unless the vaginal wall is invaded by the tumor. The operation is more hazardous and there is always an annoying cystocele as a result. Also the end-results as regards recurrences are no better. The technic is discussed and illustrated by four drawings.

EDWARD HERBERT, JR.


Report of an appendiceal carcinoid associated with a ruptured corpus luteum. There are no illustrations.

THE PANCREAS


A man thirty-three years of age had epigastric pain and subsequently developed jaundice. Following an injection of secretin, the pancreatic juice obtained by a duodenal tube showed a diminished secretion and a reversal of the normal lipase-trypsin ratio. This indicated pancreatic damage and at operation a carcinoma was found involving the entire head and body of the pancreas. There were also numerous metastases. Autopsy confirmed the diagnosis. There are no illustrations.

EDWARD HERBERT, JR.


A sixty-five-year-old woman had diabetes, which rapidly became more severe necessitating increasing doses of insulin. Two years later jaundice developed and five months after this the patient died. At autopsy an adenocarcinoma was found which involved the entire pancreas. There are no illustrations. Several references are given.

EDWARD HERBERT, JR.


A man thirty-six years of age had as chief complaint ptosis of the left eyelid and diplopia. An epigastric mass was found and a paralysis of the ocular muscles with
optic atrophy. Death occurred suddenly with a massive hematemesis and autopsy showed an extensive carcinoma of the pancreas with extension into the stomach and a metastasis at the base of the forebrain just to the left of the sella turcica. There are no illustrations.

Edward Herbert, Jr.

THE BILIARY TRACT


Two cases are recorded of primary cancer arising in the intrahepatic bile ducts. The patients were males aged sixty-nine and seventy. The clinical aspects were similar: vague general abdominal symptoms during several months, loss of weight, slight jaundice, enlarged palpable liver, and a rapid down-hill course with death four to eight months after the onset of the condition. At necropsy the liver appeared almost completely replaced by tumor, but there was no cirrhosis. No primary tumors could be found in other organs. Microscopically the growths were adenocarcinomata. In one case the glandular elements enclosed mucus and bile pigment, and metastases in the diaphragm, pleura, lung, and lumbar, cervical and mediastinal lymph nodes were present. Photographs of the tumors and photomicrographs are included.

Milton J. Eisen

THE SUPRARENAL GLANDS


While masculinization is observed not uncommonly in the adult female with a tumor of the adrenal cortex, only 5 instances of feminization associated with such a tumor in the male have been recorded. References to these cases are given and a sixth is reported. The patient was a man of thirty-four who showed enlargement of the breasts, loss of libido, partial impotence, and a decrease in the size of the genital organs. Partial remission of symptoms followed removal of a malignant tumor of the adrenal cortex but subsequent recurrence and metastases led to the patient's death.

No preoperative study was made of the estrogenic content of the urine but tests made immediately after operation showed a minimum of 500 mouse units per liter. As the patient's condition improved the amount of hormone diminished, but the subsequent clinical decline was accompanied by the return of a high content of estrogenic substance.

A comparison of the histologic picture of the adrenal tumor was made with one from a virile woman who secreted an excess of comb-growth hormone. While in some areas of both tumors the structure was that of classical hypernephroma, elsewhere they seemed to present a different specialized cell type, possibly indicating an origin from, or a tendency to develop into, cells characteristic of different zones of the adrenal cortex. Photomicrographs are included.


This is a single case report of the generalized spread of a tumor from the adrenal cortex, associated with a streptococcus septicemia. There were no unusual features.

Edward Herbert, Jr.


A cavernous angioma of the right adrenal gland was an incidental necropsy finding in a woman of seventy who died of bronchopneumonia. No indications of the tumor had been present clinically. A photograph and photomicrographs are included.

Milton J. Eisen

In 200 cases of inflammatory adnexal disease proctoscopic examination showed a proctitis or sigmoiditis in 72 per cent; with the process on the left side this was found in 80 per cent, on the right side in 26 per cent, and when the lesion was bilateral in 77 per cent. In non-inflammatory tumors the proctoscopic examination was normal in 86 per cent of the cases. This method of investigation is often of great diagnostic importance when the other criteria are uncertain. Several cases are briefly described to illustrate its value. There are no illustrations. Edward Herbert, Jr.


A woman sixty-eight years of age who had irregular uterine bleeding for three months was found at operation to have numerous tumor nodules in the uterus, tubes, and ovaries, and on the peritoneal surfaces of all these organs. She died three days after a panhysterectomy. Microscopic study showed remnants of embryonic wolffian elements; the tumors were composed of a glandular structure with surrounding neoplastic tissue of mesothelial origin. No mention of similar tumors could be found in the literature and since they resembled somewhat the embryonic renal blastemas they were called genital blastemas. They were believed to have arisen from remnants of the wolffian ducts. The description, however, is not very clear. Two photomicrographs are included. Edward Herbert, Jr.

Local Defensive Reactions of the Tissues in Cancer of the Body and Cervix of the Uterus, L. Manzi. La difesa locale dei tessuti nel cancro del corpo e del collo dell’utero, Arch. di ostet. e ginec. 43:481–506, 1936.

The author suggests that the relative rarity of cancer of the body of the uterus in the premenopausal years depends upon the periodic changes in the uterine mucosa which render it relatively resistant to malignant growth. The changes in the cervix are less intense and are frequently associated with the production of glandular abnormalities. These glandular changes would not, however, explain the common occurrence of squamous-cell cancer. The better developed myometrium of the body serves as a barrier to cancerous infiltration and thus decreases the tendency of cancer of the body to metastasis formation. The mucosa of the body is supplied with a greater number of connective-tissue cells and wandering cells of the reticulo-endothelial system, and these are said to aid in the defense against tumors.

On the basis of a comparison of histologic preparations of adenocarcinoma of the body and adenocarcinoma or squamous-cell cancer of the cervix [the number of cases examined is not given], the author states that a more intense stroma reaction occurs in the presence of tumors of the body. This is associated with a non-specific endo- and perilymphangitis in the areas about the tumor. As a result, the lymphatic channels become impervious to carcinomatous infiltration. The reaction is absent in the cervical region, and consequently the vessels here are easily invaded by the malignant process. Photomicrographs illustrate the changes described. Milton J. Eisen


From the literature it appears to be the common belief that carcinomas of the cervix become inoperable from six to eight months after the first symptoms. Three cases are reported in women forty-one, forty-four, and thirty-four years of age, all of whom refused treatment at the time biopsy was done. They were seen fifteen, fifteen, and ten
months respectively after biopsy, or twenty-one, sixteen, and fourteen months after the appearance of symptoms, and at that time they were all operable. Panhysterectomy was done and the patients were well five years, one year, and one year later respectively. The first patient had a basal-cell tumor, the other two squamous-cell carcinomas with pearl formation. Ten references are given. There are no illustrations.

EDWARD HERBERT, JR.


Among 975 supravaginal hysterectomies performed between 1923 and 1936, 12 cases of carcinoma of the cervical stump were found, or 1.2 per cent. This is a somewhat higher percentage than is usually given. In general these cases seem to respond less satisfactorily to treatment than the ordinary carcinomas of the cervix. However, from a review of the operative mortality as given in the literature it is concluded that it is better to perform supravaginal hysterectomies routinely, and take the chance of the development of a cervical stump carcinoma, than to do total hysterectomies with their much higher operative mortality. A bibliography is appended. EDWARD HERBERT, JR.


A detailed statistical study is made of 604 cases of carcinoma of the cervix treated in an eight-year period at the Gynecological Clinic at Kiel. For the whole group the five-year cures were 28 per cent. Fifty per cent of the cases were operated on, 178 cases by abdominal panhysterectomy, and 124 cases by vaginal panhysterectomy. With the first method the operative mortality was 18 per cent and there were 36 per cent five-year cures. With the second method the primary mortality was 1.5 per cent and there were 51 per cent five-year cures. Fifty-one operable cases were treated with radium. In this group there were one death during treatment and 42 per cent five-year cures; 202 inoperable cases received radium with a primary mortality of 8.5 per cent and 10 per cent five-year cures. In the entire radium-treated group there were 16.5 per cent five-year cures. By dividing the cases chronologically, a constant lowering of the mortality and improvement in the results are shown. Several sketches are included.

EDWARD HERBERT, JR.


The technique is described for intravaginal roentgen therapy of cervical carcinoma as used by Erichsen since 1932. Although his series of cases is small and the follow-up is short, the results seem to show a marked improvement over the radium therapy that was used previously. Four illustrations and several references are included.

EDWARD HERBERT, JR.


An instrument is described and illustrated with which radium can be applied intravaginally, precervically, and intracervically at the same time. The relation of the various parts can be varied to suit the anatomical requirements of each case. It provides for free drainage from the site of application, thus preventing most febrile and septic complications. In addition it permits thorough irradiation of the parametrium, with protection for the bladder and rectum. The instrument is not at all troublesome to the patient when in place, and insertion and removal are attended with no difficulty. Six illustrations are included.

EDWARD HERBERT, JR.

A woman fifty-eight years of age had a carcinoma of the body of the uterus diagnosed by biopsy and treated with radium. Shortly afterwards acute abdominal symptoms appeared and at operation a large abscess arising from the sigmoid colon was found. The infected area was resected and a hysterectomy was performed. The patient made an uneventful recovery. Histologic examination verified the diagnosis of uterine carcinoma, but the inflammatory lesion of the sigmoid apparently was entirely independent, as there was no evidence of extension of the tumor. There are no illustrations.

EDWARD HERBERT, JR.


A woman fifty-four years of age had an intermediate type of carcinoma of the cervix. On biopsy it was found that the karyokinetic index of the upper malpighian layers was high, while that of the basal layer was low. Radium therapy—33 millicuries—was given, but as this was poorly tolerated, a total hysterectomy was done nine days later. Microscopic study of the operative specimen showed necrosis of the superficial portions of the tumor, partial necrosis of the upper malpighian layers, and no change in the basal layer, even in those portions where the latter was relatively superficial in position. This case seems to bear out the theory that a tumor of this type is relatively radioresistant when the karyokinetic index is high in the upper layers and low in the basal layer, and is more radiosensitive when the reverse is true. One photomicrograph is included.

EDWARD HERBERT, JR.


A woman fifty-five years of age with vaginal bleeding was found to have a Group IV epithelioma of the cervix, and a vaginal hysterectomy was performed followed by radiotherapy. Two years later a left radical mastectomy was done for an adenocarcinoma with axillary node involvement. Three years later an ovarian tumor was removed, which was found to be microscopically identical with the carcinoma of the cervix removed five years previously. The patient was well six months later. This case fulfills all the requirements for a diagnosis of two independent primary tumors. Three photomicrographs and eight references are included.

EDWARD HERBERT, JR.


A woman fifty-two years of age with a large fibromyoma of the uterus developed a carcinoma of the uterine mucosa which invaded and almost completely replaced the fibromyoma. When first seen the cancer was too far advanced to permit of any therapy. Thirty-four similar cases were found in the literature. There are no illustrations.

EDWARD HERBERT, JR.


This is an incomplete case report of a woman thirty-six years of age who died of uremia following radium therapy for a carcinoma of the cervix. It is not illustrated.

EDWARD HERBERT, JR.

A woman thirty-two years of age who had had severe menorrhagia for eighteen years was curetted and the findings suggested carcinoma. A hysterectomy was performed and a carcinoma was found which had apparently developed on the basis of an endometriosis involving the uterus, tubes, and ovaries. Postoperative radiotherapy was given and the patient was in good health eighteen months later. Three photomicrographs are included.

Edward Herbert, Jr.


A woman thirty-nine years of age was found during delivery to have a fungating lesion of the cervix grossly suggesting carcinoma. Biopsy, however, showed only a simple erosion with hyperplasia. It is emphasized that the circulatory changes during pregnancy can change an erosion grossly so that the diagnosis is impossible without biopsy. Since this is a dangerous procedure at the time of delivery, it is urged that periodic examinations be made early in pregnancy so that lesions may be promptly diagnosed and appropriately treated. There are no illustrations.

Edward Herbert, Jr.


As an incidental finding an early cervical carcinoma was excised in a girl twenty-three years of age. Microscopically it extended for a depth of only 1.4 mm. Five years later the patient went through a normal labor with delivery of a normal child. Examination two months afterwards revealed no abnormalities.

Edward Herbert, Jr.


A woman who had an abortion following five normal deliveries was curetted, with normal findings. Two months later she had irregular bleeding, and a polyp measuring 14 x 3 x 3 cm. was found which proved to be a sarcoma arising from the cervix. Hysterectomy was performed and the patient was symptom-free one year later.

A second woman, forty-six years of age, had irregular bleeding for one month. On examination a large tumor of the cervix was found which invaded the parametrium. Biopsy showed it to be a sarcoma. Since it was inoperable, radium therapy was given. This brought about a rapid cure locally but death from generalized metastases occurred four months later.

There are no illustrations.

Edward Herbert, Jr.


A woman thirty-nine years of age had a hemorrhagic and purulent vaginal discharge. After two months she came for examination and an ulcerated pedunculated tumor the size of an orange was found arising from the posterior lip of the cervix. It was excised and proved to be a spindle-cell sarcoma. Radiotherapy was given and the patient was symptom-free eight months later. There are no illustrations.

Edward Herbert, Jr.

A woman thirty-four years of age had a sudden large vaginal hemorrhage. A cervical tumor some 7 cm. in diameter was found and shown by biopsy to be a round-cell sarcoma. A total hysterectomy was performed but death occurred six weeks later from generalized metastases. There are no illustrations. Edward Herbert, Jr.


A woman forty-three years of age who was at the menopause was given radium treatment for metrorrhagia with good results. Seven years later uterine bleeding reappeared and curettage showed a sarcoma arising from the endometrium. A hysterectomy was performed, but the patient died four months later with generalized abdominal metastases. There are no illustrations. Edward Herbert, Jr.


A woman forty years of age complained of metrorrhagia. At operation a large leiomyosarcoma of the uterus was found and a hysterectomy was carried out. Death, two months later, was due to generalized abdominal metastases. There are no illustrations. Edward Herbert, Jr.

Perithelioma of the Cervix, P. Celentano. Peritelioma del collo dell'utero, Arch. di ostet. e ginec. 43: 437-468, 1936.

Hysterectomy was performed in a woman of thirty-one for a localized cervical tumor. The central portion of the neoplasm had the characteristic histologic appearance of an epidermoid carcinoma, but the diagnosis of perithelioma is suggested since at the periphery of the mass the tumor cells were grouped about small blood vessels. A few reticulum fibers were present. The papers of other observers are cited in which perithelioma is considered not as a distinct entity, but as an incidental histologic finding depending upon local abnormalities. It is suggested that proximity to blood supply maintains the vitality of cells about the vessels. This explanation would appear justified in the author's case, as portions of the growth suggested the diagnosis of a common type of malignant epithelial tumor. The postoperative course is not given. Photomicrographs and a bibliography are included. Milton J. Eisen


A small and apparently benign tumor of the uterus was classed as a lymphatic reticulo-endothelioma. It differed from the numerous lymphangiomas previously recorded and was no doubt exceptional, but it confirmed the reality of the existence of the lymphatic reticulo-endothelioma. L. Foulds


By secondary sterility the author means voluntary abstention from child-bearing by women who have had a small number of children. He is of the opinion that sterility is an important etiological factor in the development of uterine fibroids. [The journal is devoted to a policy of seeking ways and means of increasing the population.] Among 1,408 women operated upon for fibroids, 634 (45 per cent) were childless. Among the remaining 774 patients fibroids were encountered more frequently in those with one to four children (55 or 71 per cent in this group) than in those with larger families. [This argument is somewhat invalidated by the author's neglect of the fact that women with a smaller number of children are generally more numerous than those with twelve.] The average age of nulliparous patients with fibroma was thirty-eight, and in the child-bearing group forty-two. In 82 per cent of the women with children the last child was

This is a general discussion based on a series of 303 cases of uterine fibroids treated by radium and roentgen therapy. The prime requisite is that the diagnosis be without question. With this proviso radiotherapy affords the easiest and least dangerous method of stopping uterine bleeding and reducing the size of the tumors. If the diagnosis is at all doubtful, if the tumors are very large and numerous, or if they are pedunculated, surgery is the method of choice.

Edward Herbert, Jr.


Three cases are briefly reported, one of a leiomyoma of the ischiorectal fossa simulating a Bartholin's cyst, one a small fibromyoma of the vaginal wall situated in the left fornix, and one a large fibromyoma of the anterior vaginal wall which threatened to obstruct delivery. All three were removed with uncomplicated postoperative courses. There are no illustrations.

Edward Herbert, Jr.


A woman sixty-two years of age who complained of vaginal bleeding was found to have a fibroma of the cervix which was removed surgically. It was unusual only in that it arose from the anterior lip, whereas the great majority of those previously recorded have been posterior. There are no illustrations.

Edward Herbert, Jr.


A woman fifty-eight years of age and ten years past the menopause was operated on for acute abdominal symptoms. A fibroid uterus weighing 8700 grams which had undergone torsion was removed. The postoperative course was uneventful. There are no illustrations.

Edward Herbert, Jr.


This is a report of a necrotic and infected submucous fibromyoma of the uterus removed by supravaginal hysterectomy. There were no unusual features in the case.

Edward Herbert, Jr.


Two cases are reported. In the first myomectomy was done during the third month of pregnancy in a woman thirty years of age, with an uneventful course thereafter. The second patient was a woman twenty-eight years of age who was delivered by Cesarean section, with subsequent hysterectomy. The uterus contained many intramural and submucous fibroids and yet the pregnancy had come to term without any untoward symptoms. One photograph is included.

Edward Herbert, Jr.


During the third month of pregnancy a woman, whose age is not given, developed signs of an acute abdominal infection. At operation a necrotic fibroid was found which
had perforated into the peritoneal cavity, in which there was a large amount of purulent fluid. A supravaginal hysterectomy was done and recovery was uneventful. The contents of the fibroid were sterile bacteriologically, but in the face of uncertainty as to this point at the time of operation, hysterectomy was considered the only logical procedure. There are no illustrations.

EDWARD HERBERT, JR.


A woman thirty-four years of age with a large fibroid uterus became pregnant and developed a pelvic and femoral phlebitis with a small pulmonary embolism. Following an abortion she made an uneventful recovery. There are no illustrations.

EDWARD HERBERT, JR.


This is a single case report of a fibromyoma situated near the internal os of the cervix, which prevented a normal delivery. Cesarean section was performed, followed by a hysterectomy. There are no illustrations.

EDWARD HERBERT, JR.


A primipara thirty-five years of age with a fibroid uterus was delivered by Cesarean section. The fetus was in an oblique breech position and a constriction of the uterus due to the fibroids held the neck firmly so that a normal delivery would have been impossible. There are no illustrations.

EDWARD HERBERT, JR.


A woman forty-five years of age had a squamous-cell carcinoma of the vagina proved by biopsy, the first symptoms of which were a rectal abscess with development of three rectal fistulas. No follow-up is given, and there are no illustrations.

EDWARD HERBERT, JR.


Five brief case histories.

Seaton Sailer


A woman thirty-five years of age had symptoms suggestive of a hydatidiform mole, and hormonal tests of the blood serum supported the diagnosis. Curettage revealed tumor tissue the microscopic examination of which was uncertain as to malignancy. Following the curettage, however, the biologic tests became normal and remained so, thus tending to substantiate a diagnosis of a benign mole. The patient was well one year later. One photomicrograph is included.

EDWARD HERBERT, JR.
A diagnosis of hydatidiform mole was made in a woman of forty-six years in the third month of pregnancy, and a subtotal hysterectomy performed. Histologic examination of the uterus suggested the diagnosis of chorionepithelioma, since marked cellular irregularities, and extensive infiltration by the degenerated villi into the myometrium, with occasional rupture into the blood vessels, were observed. No metastases developed and there was no recurrence after a period of eleven months. Photomicrographs are reproduced.

This is a report of a large chorionepithelioma in a woman forty-seven years of age. A supravaginal hysterectomy was done and the patient was well two years later. There are no illustrations.

A woman thirty-two years of age who was believed to have uterine fibroids was found to have a tubal pregnancy as well as an intraligamentous fibromyoma independent of the uterus. There are no illustrations.

A woman fifty-three years of age who had severe metrorrhagia was curetted and a hyperplastic endometrium was found. When the bleeding continued in spite of radium therapy, hysterectomy was performed. In the mid-portion of the left tube was a tumor the size of a bean, which was proved microscopically to be a benign lymphangioma. Only 17 other cases were found in the literature and all were accidental findings. Four photomicrographs and several references are included.

In a girl twelve years of age, with an abdominal tumor and cachexia, there was found at operation a large carcinoma of the right ovary. Two months after removal of the ovary death occurred from generalized metastases. This is believed to be the earliest case reported from India and is interesting because the girl had not reached puberty and showed no secondary sexual characteristics. Photographs are included.

This is a report of bilateral ovarian tumors metastatic from a gastric carcinoma in a woman fifty-two years of age. There were no gastric symptoms, and the primary lesion was discovered only after microscopic examination of the ovarian metastases. Two photomicrographs are included.

A sensation of distress in the lower abdomen accompanied by progressive enlargement, menstrual irregularities, and loss of weight developed during a period of five months in a woman of thirty-two years. Bilateral ovarian tumors were found at
ABSTRACTS

operation and removed. They measured 25 x 20 x 9 cm. and 17 x 15 x 9 cm., and weighed 1,950 grams and 780 grams respectively. Microscopically the growths were classified as large round-cell sarcoma. There were no metastases and the patient remained free from disease after one year. A photograph of the larger tumor and photomicrographs are included.

MILTON J. EISEN


A girl four years of age with uterine bleeding, enlargement of the breasts, beginning growth of pubic hair, and a uterus of adult size was found to have a pelvic tumor. This was removed at operation, following which all of the symptoms disappeared. The child was well and normal for her age two years later. The tumor was a solid one of the left ovary and microscopically was seen to be a polymorphocellular sarcoma. It was believed to have developed on the basis of a granulosa-cell tumor. Apparently no hormonal studies were made. Four photographs, two photomicrographs, and several references are included.

EDWARD HERBERT, JR.


A woman fifty-seven years of age who was five years past the menopause had irregular uterine bleeding. She was believed to have a uterine carcinoma but at operation a normal uterus was found. There was, however, a small tumor of the left ovary which proved microscopically to be a fibrosarcoma. No follow-up is given and there are no illustrations.

EDWARD HERBERT, JR.


Two cases are reported of solid carcinomas of the ovary. There were no unusual features. One photograph is included.

EDWARD HERBERT, JR.


A girl of three and a half years complained of abdominal pain and swelling of six months' duration. The child was one of a pair of identical twins, but the sister had no evidence of disease. There was a palpable mass in the lower right abdomen. It was excised and proved to be an ovarian teratoma, measuring 21 x 18 x 17 cm. and weighing 1.75 kg. The growth contained representative tissue of all germ layers. The tumor did not recur, but the time interval is not stated. Photographs of the tumor and photomicrographs are reproduced.

MILTON J. EISEN


A woman thirty-seven years of age had complete amenorrhea which lasted for three years and was followed by metrorrhagia. A left ovarian tumor was found and removed. Curettage showed a hyperplastic endometrium. Following operation the menses became regular. The tumor was composed partly of tissue resembling that of a folliculoma or granulosa-cell tumor and partly resembling that of a luteinoma. The structure corresponded to that of the tumors designated by Lépine as folliculo-lipidique, and the authors give it the name of "folliculo-luteinoma." There are no illustrations.

EDWARD HERBERT, JR.

In 100 autopsies on females ranging in age from one day to ninety years ovarian cysts were found in 77 per cent. Cystic degeneration was observed in 22 per cent, follicular cysts in 55 per cent, corpus luteum cysts in 9 per cent, hilus cysts in 7 per cent, and parovarian cysts in 2 per cent. There are no illustrations. Several references are appended.

Edward Herbert, Jr.


A woman forty-four years of age who complained of severe abdominal pain was operated upon for a pelvic tumor. A microscopically benign dermoid cyst of the right ovary was found which had perforated into both the ileum and the sigmoid colon. There were also a serous cystadenoma of the left ovary and a fibroid uterus. The tumors were all removed and the patient was well one year later. No similar case of double intestinal perforation was found in the literature. Two photographs are included.

Edward Herbert, Jr.


Three cases are reported in women sixty-nine, forty-seven, and fifty-six years of age respectively who developed large dermoid cysts of the ovary which were removed surgically and showed squamous-cell epitheliomas developing in the cysts. In the first and third cases no follow-up is given, but the second patient died three days after operation and autopsy showed widespread metastases. Three photomicrographs and several references are included.

Edward Herbert, Jr.


A woman twenty-three years of age had the right ovary removed for a dermoid cyst. Four years later, during the third month of pregnancy, she developed acute abdominal signs and at operation a dermoid cyst of the left ovary which had undergone torsion was found. It was excised and a small fragment of ovarian tissue containing the corpus luteum of pregnancy was conserved. The pregnancy continued normally to term and menstruation was regular afterwards. There are no illustrations.

Edward Herbert, Jr.


An enormous ovarian cyst containing 38 liters of fluid and with solid parts weighing 4300 grams was removed from a woman forty years of age. She made an uneventful recovery. The histologic structure of the cyst is not described and there are no illustrations.

Edward Herbert, Jr.


This is a case report of a twisted unilocular serous cyst of the right ovary the size of an infant’s head. It was removed at operation and the patient, twenty-two years of age, had an uneventful recovery. There are no illustrations.

Edward Herbert, Jr.
ABSTRACTS


This is a single case report amply described by the title. Edward Herbert, Jr.


A woman twenty-eight years of age was found during the eighth month of pregnancy to have a tumor, supposedly of the left ovary, about 15 cm. in diameter. The pregnancy continued to term, with normal delivery, but at that time no tumor could be palpated. It had originally been verified by three examiners and it is believed that it was a thin-walled cyst which ruptured during labor. Edward Herbert, Jr.


Two cases are reported of squamous epithelioma of the urethra proved by biopsy in women forty-seven and fifty-eight years of age. The first woman had had symptoms for three months, the second for several years. Both were treated intensively by radium with roentgen therapy over the inguinal region, although the glands were not palpably enlarged. The first patient was well three years later, the second after one year. Several references are given. The report is not illustrated. Edward Herbert, Jr.


A woman thirty-three years of age had a tumor of the perineum near the anus. At the birth of the first of her three children the perineum had been badly torn. The tumor increased in size for two years and was painful during the menstrual period. It was excised and was found to be an endometrioma. Six similar cases were found in the literature. There are no illustrations or references. Edward Herbert, Jr.

THE GENITO-URINARY TRACT

Tumors and Precancerous Lesions of the Bladder Due to Amines or Nitro-Derivatives (Aniline Dye Tumors), G. Di Maio. Tumori e lesioni precancerose della vescica da amine o nitroderivati (detti da anilina), Arch. ital. di urol. 14: 283–385, 1937.

This paper contains an analysis of the precancerous and neoplastic changes that may occur in the bladder in aniline dye workers. Among 86 workers examined, 26 had changes that were considered as precancerous, 7 had benign tumors, and 4 had malignant growths. Hematuria was the common symptom indicating the presence of a new growth. The changes in the pre-tumor stage were revealed by routine cystoscopic examination of all workers rather than by specific symptoms. The trigone was the most common site of the lesions. The changes consisted of congestion, telangiectases, and small areas of hemorrhage. The cystoscopic appearance of the tumors did not differ from that of spontaneous neoplasms. The papilloma had no characteristic histology; it occurred doubly in 3 patients. Among the cancers 3 were of the papillary type and one was a diffusely growing alveolar form.

The duration of employment in the dye industry in the pre-tumor group varied from two to six years, but in isolated instances changes were first demonstrable after a period of thirteen to eighteen years. The interval in the papilloma cases was from three to nine years; in the cancer cases six to fifteen years. The dyes most frequently associated with the conditions were benzidine, betanaphthol amine, and aniline. These substances are absorbed through the respiratory tract and skin, and are eliminated in the urine as such or with a modified chemical structure.

Treatment consists primarily of measures to impede the absorption of the dyes. Bladder lavage may be used with reasonable success in the early stages. Papillomata are removed by cystoscopic electrocoagulation methods. Cancer may be treated by wide resection if the tumor is operable, or in the more advanced cases by simple bladder drainage. The prognosis in the first two stages is excellent; in the last it is very poor.
A schematic presentation of the cases, reproductions of the cystoscopic picture, photomicrographs, and an extensive bibliography are included.  

**Milton J. Eisen**


The clinical histories and histologic features of two cancers of the bladder are described. One of the tumors was composed of two zones, the one papillomatous and benign, the other plainly malignant; it provides additional evidence for the malignant transformation of papillomas of the bladder.  

**L. Foulds**


Orchidectomy was performed on a man of thirty-six years for a painful testicular enlargement of two and a half months’ duration. The testis was replaced by a mass approximately 5 x 3 cm. in size, and histologically there was evidence of several co-existing conditions. Because of the presence of tissue of all germ layers a diagnosis of teratoma was made. In addition, a diffusely growing malignant epithelial tumor of the seminoma type was present. The author considers the possibility of the development of the latter from epithelial components of the teratoma. The tumor was invaded by tuberculous granulation tissue. No mention is made of tuberculosis in other parts of the body.

Radiation therapy was followed by excision of the tumor. A metastasis in the sacrum developed after six months. The further course is not given.

A photograph of the excised mass, photomicrographs and a bibliography are included.  

**Milton J. Eisen**

**Observations on Chorionepithelioma Testis: With Record of a Case,** S. McDonald, Jr.  

A case of chorionepithelioma in a man of twenty-four, with gynecomastia, is recorded. The Aschheim-Zondek reaction remained positive after removal of the primary growth and autopsy revealed metastases in the liver, kidneys, lungs, skeletal system, and brain.

The histogenesis of this tumor is discussed and it is held that, while the tumor arises through malignant differentiation of a teratoma, endocrine observations support the belief that chorionepithelioma testis is morphologically identical with uterine chorionepithelioma.

**Edwin M. Deery**

**The Nervous System**


In a review of the literature the writer finds some 50 cases in which the occurrence of brain tumors appeared to show an hereditary tendency. Two cases are added. The first relates the story of two brothers. One was suspected of having a pituitary tumor [unverified; no necropsy]. The other at necropsy showed a glioblastoma. The second report is that of three sisters. One showed clinical evidence of an acoustic tumor [unverified; no necropsy]; a second died following lumbar puncture and was suspected of having a brain tumor; the third was said to have some trouble with her head but no further details could be obtained.  

**Edwin M. Deery**


Four clinical case reports are presented, in each of which a suspected frontal lobe tumor proved to involve, not a single frontal lobe, but both.
ABSTRACTS

A man of fifty-two showed clinical signs and symptoms of a left frontal tumor. At necropsy following two operations there was found an extensive bilateral meningioma.

A clinical diagnosis of a right frontal tumor was made in the case of a man of fifty-eight years. Necropsy, following a decompression, revealed a large fibrosarcoma involving both frontal lobes.

A woman of fifty-three years was considered to have a right frontal tumor for which a decompression only could be carried out. Necropsy showed a "glioma" of both frontal lobes and of the corpus callosum. [Probably a primary origin in the corpus callosum with invasion of both frontal lobes.]

A woman of sixty died without neurological study or operation. Necropsy showed a "glioma" of the corpus callosum and both frontal lobes.


Of a series of 219 verified intracranial neoplasms that the writer has seen, 13 were ventricular tumors. The number of cases in the literature is 173, of which 65 were in the fourth ventricle, 68 in the third, and 40 in a lateral ventricle.

Brief reports of 10 cases are given, including a choroid papilloma blocking the foramen of Magendie, 2 ependymomas of the fourth ventricle, a colloid cyst of the third ventricle, a cyst of the septum pellucidum, a teratoma of the pineal body, and a choroid papilloma of a lateral ventricle.


A girl of thirteen years had suffered for over a year with gradually increasing headaches. In the past two months visual difficulties had appeared. Neurological examination showed practically a complete ophthalmoplegia and little else. A clinical diagnosis of pontine tumor having been made, operation was attempted but proved fatal. Necropsy disclosed an extensive astrocytoma of the pons. It filled the rhomboid fossa and had invaded the fourth ventricle.

[Gliomas of the pons are non-surgical lesions, as they cannot be removed. Temporary relief is sometimes obtained from x-ray therapy. Aside from signs and symptoms caused by involvement of the ocular nuclei these patients often give little evidence of the disease; they may not show papilledema, perhaps because once the growth starts they do not live long.]


A woman of thirty-one had severe headaches, nausea, vomiting, and blurred vision. After a period of apathy she suddenly became restless and uncontrollable and was admitted to the hospital, where a diagnosis of subarachnoid hemorrhage was made. Death occurred twenty-seven days later and autopsy revealed a melanoblastosis of the leptomeninges with invasion of a pial vessel in the region of the right occiput, causing hemorrhage. The occurrence of melanin in the normal brain is discussed. Photographs and references are included.


In a series of 1068 cisternal punctures only one case was seen in which complications developed. A boy eighteen years of age who was suspected of having a brain tumor went into coma and died a few days after the puncture. Autopsy showed a partial herniation of the temporal lobe through the tentorium. There was a tumor in the temporal lobe. There are no illustrations.

Edward Herbert, Jr.

Among 15 cases of pituitary tumor the Friedman test was negative in 7 and positive in 8. In 4 of the 7 cases giving a negative reaction the diagnosis was proved by autopsy or operation. Of the 8 cases giving a positive reaction 3 were proved by autopsy and 1 by operation. Each group included tumors of both acidophil and basophil type. Roentgen irradiation of the pituitary was followed by a reduction in prolact excretion in those cases in which the test was positive. Illustrations and references to the literature are included.


A woman thirty-seven years of age complained of rapid increase in weight, hypertension, and irregular menstruation. A tentative diagnosis of basophilic adenoma of the pituitary was made and was confirmed at autopsy. Death was due to a pulmonary embolus secondary to a femoral phlebitis. There are no illustrations. Several references are given.


The presence of a block as demonstrated by the lumbar injection of iodized oil confirmed the clinical diagnosis of a spinal cord tumor localized between the ninth and eleventh dorsal vertebrae in a man of fifty-eight years. An extradural neurinoma was removed after laminectomy. A postoperative transverse myelitis developed and the patient died from bronchopneumonia after two months. Extensive softening of the spinal cord in the area of operation was found at autopsy, but there was no evidence of tumor. A roentgenogram, a photograph of the tumor, and photomicrographs are included.


Two cases are reported of spinal cord tumors demonstrated by lipiodol injection in patients of unstated sex and age. The first was in the lower lumbar region and caused a paraplegia; the second was in the upper thoracic and lower cervical segments causing Brown-Séquard and Horner syndromes. Both were treated with radiotherapy with prompt disappearance of symptoms, and both patients were symptom-free five years later without further treatment.


A series of 31 cases of von Recklinghausen's neurofibromatosis is reviewed and some details of each are recorded. In 74 per cent of the cases a family history of the disease was obtained. In most instances both pigmentation and cutaneous tumors were present at the time of examination, although 7 patients less than ten years of age had only pigmentary changes. The tumors as a rule were generalized, being distributed over the trunk and extremities, but 7 patients had large localized plexiform neurofibromas. Evidence of intracranial involvement was suggested in 2 cases by progressive unilateral deafness; in 3 cases deafness was due to encroachment of a large plexiform neuroma of the face on the external auditory canal. There were 2 instances of mental retardation. Osseous changes were observed 7 times.

Although in most cases pigmentation was present from infancy, there was evidence that puberty and especially pregnancy caused an exacerbation of the disease. No endocrine factors could be determined.
An interesting observation was the progressive, changeable course of the disease with the advance of years. It is the author's belief that two factors may be necessary for the production of this disease: (1) primary maldevelopment of mesodermal tissue, which may be either inherited or congenital in origin, and (2) a secondary quantitative response of this abnormal tissue to the normal physiologic growth stimulus that is supplied during the first two decades of life.

The literature is reviewed and an extensive bibliography included.


The authors have critically analyzed the histologic and clinical criteria for the diagnosis of Bourneville's disease (tuberous sclerosis) and Pringle's disease (adenoma sebaceum) and review the literature on the so-called combination types of the Bourneville-Pringle syndrome and v. Recklinghausen's disease. According to their survey a combination of Bourneville-Pringle's disease and v. Recklinghausen's disease is not substantiated by histologic examination. A chart comparing 6 cases of each disease on 14 points shows no case of Bourneville-Pringle disease in which there were skin tumors containing nerve fibrils as noted in v. Recklinghausen's disease.

Two cases of tuberous sclerosis with widespread skin lesions showed only a collagenous fiber structure in the latter. Clinically mental retardation and epileptic attacks were present and roentgenograms of the skull showed calcified lesions in the cerebral cortex and ventricle. Renal anomalies were also probably present.

Cases of molluscum fibrosum pendulum were noted in persons mentally sound. Another group of cases showing simple pigment anomalies in the skin were believed not to represent a formae fruste of v. Recklinghausen's disease but probably an independent disease related only in that it was congenital in origin.

The paper is well illustrated and has a bibliography.


A man forty-eight years of age who showed a typical picture of v. Recklinghausen's neurofibromatosis was found by proctoscopic examination to have a carcinoma of the rectum which was proved by biopsy. Gastroscopic studies revealed a condition which was considered as precancerous. No follow-up is given and there are no illustrations.

Edward Herbert, Jr.


In an apparently healthy man twenty-nine years of age a rounded shadow was found in the left upper lung field on a routine x-ray plate. A diagnosis of a benign tumor was made, and because of areas of cutaneous pigmentation it was believed to be a neurofibroma. No follow-up is given. One roentgenogram is included.

Edward Herbert, Jr.

The Literature is reviewed and an extensive bibliography is included.


A man twenty-nine years of age who was being treated for a syphilitic infection was found on routine examination to have several small nodular deformities around the
knees. X-rays showed numerous sharply defined lesions scattered throughout the bones of both lower extremities and the pelvis. One nodule was removed and proved to be a chondroma. One year later it had not recurred but otherwise the picture was unchanged. There are no illustrations.


A woman fifty-eight years of age who had skeletal pains was found to have a multiple myeloma involving all the bones except the distal portions of the extremities. It was diagnosed by biopsy. Radiotherapy was given without improvement. The diagnosis was verified at autopsy. Three roentgenograms and 2 photomicrographs are included.

**THE LEUKEMIAS, HODGKIN'S DISEASE, LYMPHOSARCOMA**


Forty-one cases were found in the literature of leukemia arising during pregnancy and 2 additional cases are reported which were strikingly similar. The patients were twenty-five and twenty-two years of age, and for both it was the second pregnancy. The first symptom in each case was a gingivitis, beginning in one instance in the fourth and in the other in the sixth month. The clinical and hematological pictures of an acute myelogenous leukemia developed rapidly and both patients died following stillbirths in the sixth and seventh months respectively. In neither fetus was any sign of leukemia found. Autopsies showed a widespread leukemic infiltration of almost all the organs, but in the first patient they were typical of an acute myelogenous leukemia, while in the second the tumors were of a definite green color and the case was grouped among the leukemic chloromyeloses. Several references are given, but the article is not illustrated.


A seventy-two-year-old woman with widely disseminated brown-red indurated areas over the face, neck, trunk, and extremities was found to have a leukocyte count varying from 77,000 to 96,000 with 67 to 96 per cent small lymphocytes. Some enlarged lymph nodes were present but the spleen was not palpable. Despite x-ray treatment and liver therapy the patient died, the total duration of her illness from the appearance of the first symptoms being less than two years. At autopsy the skin showed a diffuse lymphatic leukemic metaplasia without participation of the bone marrow, liver, or spleen. The superficial lymph nodes showed some hyperplasia, the deeper nodes no significant changes.

The author gathered from 222 reported cases of lymphatic leukemia with cutaneous manifestations that 4.5 per cent of the cases are primary in the skin, half of which show no associated participation of the inner viscera. He interprets the skin manifestations as the first of a series of defense reactions against the unknown poison of the disease. Photomicrographs are included.


The authors present a résumé of the typical blood vessel changes in the eye grounds in leukemia and report the case of a fourteen-year-old girl suffering from myelogenous leukemia with pronounced retinal changes. Five photographs of fundus changes accompany the article.

A woman fifty-one years of age had a typical acute leukemia and died within a few months. She had recently had a long course of gold therapy for infectious arthritis and eighteen years previously she had been treated with thorium X for the same affection. The question is raised as to whether either of these substances played any part in the etiology of the leukemia.

Edward Herbert, Jr.


A child seven years of age presented a picture typical of rheumatic fever with joint pains, fever, and anemia. The white count was normal on 17 examinations but the anemia was progressive. The spleen and liver as well as the superficial lymph nodes became enlarged, and examination of the marrow obtained by sternal puncture led to the diagnosis of leukemia. The child died with evidence of cardiac failure, due probably to the anemia. Autopsy was not performed and there are no illustrations.

Edward Herbert, Jr.


An acute hemoptysis attributed to tuberculosis. It ceased with rest, but shortly afterwards recurred, accompanied by a hemorrhagic pleural effusion, tremendous enlargement of the spleen and liver, and a hemorrhagic ascites. A blood count showed 958,000 white cells, almost all of the myeloid series. Autopsy confirmed the diagnosis but did not explain the origin of the ascites. There are no illustrations.

Edward Herbert, Jr.


Report of a fatal case of chronic myeloid leukemia of three years' duration in a man of thirty with leukemic infiltration of the gums, cheek, and right maxillary sinus. Photomicrographs are included.

Milton J. Eisen


A chronic myeloid leukemia in a woman of twenty-three was treated with radiation. There was a progressive fall in the white count from 430,000 to 45,000 during a period of five months. A pregnancy then occurred and was permitted to go to term. The child presented no abnormalities. Radiation had been discontinued but the white count remained between 12,000 and 19,000. Following the puerperium the number of white blood cells rose, and radiation was again employed. There are no further details.

Milton J. Eisen


The authors believe that punch biopsy of lymph nodes is useful in the diagnosis of Hodgkin's disease. The procedure is acceptable to the patient and several examinations
may be made during treatment which will give valuable information as to the results
to be expected. There are no illustrations. Edward Herbert, Jr.

Hodgkin’s Disease with Marked Eosinophilia and Rapid Course, C. Aubertin and A.

A man forty-one years of age had Hodgkin’s disease which was typical except for an
eosinophilia which reached 58% and an extremely rapid course terminating in
death seven months after the first symptoms in spite of radiotherapy. The diagnosis
was made by biopsy. Autopsy was not performed. There are no illustrations.
Edward Herbert, Jr.

Hodgkin’s Disease with Undulating Fever. H. Greonet, P. Isaac-Georges, and A.

A boy fourteen years of age showed a perfectly regular temperature chart with six
or seven days of fever alternating with a non-febrile period of the same duration. The
only other findings were a palpable spleen and an anemia. The diagnosis of Malta
fever seemed obvious but was ruled out by agglutination and skin tests. Though there
were no enlarged lymph nodes, the possibility of Hodgkin’s disease was considered and
a supraclavicular node of normal size was removed. It showed the typical structure
Autopsy was not performed. Edward Herbert, Jr.

Anuric Form of Malignant Lymphogranulomatosis. M. Duvoir, L. Pollet, A. Basset,
and Mme. Logeais. Forme anurique de la lymphogranulomatose maligne, Bull.

A woman thirty-three years of age who had been under treatment for three years for
Hodgkin’s disease, developed anuria and uremia which were relieved by radiotherapy.
Two months later she had a recurrence of the same symptoms which again responded
to irradiation. The exact mechanism of the anuria is unknown as no follow-up is given,
but it was probably due either to the pressure on the ureters of enlarged lymph nodes or
to direct infiltration of the ureters or kidneys. One graph is included.
Edward Herbert, Jr.

Malignant Lymphogranulomatosis with an Acute Course Simulating Cirrhosis with
Ascites, Baumann, P. Mas, and J. Balmes. Lymphogranulomatose maligne à
evolution aigue simulant la cirrhose ascitogène, Arch. Soc. d. sc. méd. et biol. de

A man thirty-five years of age with an alcoholic history presented a clinical picture
of Laennec’s cirrhosis and ascites and died with cachexia four weeks later. Biopsy of
an inguinal node which became palpable shortly before death led to a diagnosis of
Hodgkin’s disease, although clinically there was no evidence of this condition. Autopsy
was not performed. Several references are given. Edward Herbert, Jr.

Generalized Lymphoblastic Sarcoma with a Course of More than Nine Years, J. Ducu-
ing, O. Miletsky, and L. Bassal. Sarcome lymphoblastique généralisé évoluant

In 1928, a clinical diagnosis of retrocrural lymphosarcoma was made in a woman
aged fifty-four; irradiation treatment was successful. In 1930 and at intervals there-
after there was enlargement of various nodes and of the spleen; on each occasion the
histologic diagnosis, following biopsy, was lymphoblastic sarcoma and on each occasion
irradiation was successful. Tumors of this type are usually radiosensitive. The
unusual features in the present case are the long latent periods, slow progress, and
complete retention of radiosensitivity.

L. Foulds
ABSTRACTS


A five-year-old boy was hospitalized because of loss of appetite and strength beginning two weeks before admission, followed shortly by icterus, with dark-colored urine and clay-colored stools. A large irregular solid mass was present in the right iliac fossa. The child died ten days following admission with aggravation of the icterus, distention of the abdomen, and edema of the extremities. At autopsy the distal 12 cm. of the ileum was found to be involved in a hard tumor 7 cm. in diameter, filling the right iliac fossa and displacing the cecum upward and posteriorly. The walls of the terminal ileum and cecum were thickened, rigid, and diffusely invaded by tumor. The mesentery and retroperitoneal tissue had undergone similar changes. Microscopic examination showed lymphosarcoma. The authors give a brief general discussion on these tumors.

Seaton Sailer

STATISTICS


According to the unsatisfactory records available, malignant tumors occur in the natives of Madagascar but less frequently than in Europeans. The records of one hospital from 1927 to 1936 showed a cancer morbidity of only 4 per cent. During eighteen months the author obtained 87 tumors removed at operation or autopsy for pathological examination; they comprised 25 benign tumors, 1 parasitic tumor, and 61 malignant tumors. The malignant tumors comprised 45 carcinomas, 11 sarcomas, 1 glioma, 2 melanomas, and 2 embryonic tumors. The ratio of sarcoma to carcinoma (1:4) is similar to that observed in other tropical and subtropical countries but much higher than in Europe. The mean age for cancer development was forty years (thirty-six for sarcoma; forty-four for carcinoma), which is considerably lower than in Europe. Malignant tumors were more common in women (37 cases) than in men (24 cases), the difference being accounted for by the frequency of cancers of the breast and uterus. The number of cases is too small to allow a useful discussion of the relative frequency in the various races which make up the native population of Madagascar.

In the main, the sites of cancer were similar to those observed elsewhere. Cancers of the digestive system (11.5 per cent), though less frequent than in Europe, were more common than previously supposed. The most notable anomaly was the absence of tumors of the bucco-pharyngeal cavity. In Europe an important rôle in the production of buccal cancer has been assigned to syphilis and tobacco, but syphilis is common in the natives of Madagascar and they smoke and chew tobacco freely. Moustardier thinks that the absence of buccal cancer is due to the death, from other causes, of a high proportion of the natives before they reach the age when this type of cancer commonly develops in Europeans. This exclusion, by early death, of forms of cancer common in Europe probably accounts also for the relatively high proportion of sarcomas.

Moustardier recognizes the limitations of his material and submits his results tentatively as a first step in the study of cancer in Madagascar.

There is a bibliography of papers on cancer in native races, especially those of French colonies.

L. Foulds

EDUCATION


The newly organized Brooklyn Cancer Institute, aims not only to care for patients but to hold regular clinical conferences open to the physicians of the community, cooperate with the county medical society, and carry on research work in radiology, pathology, serology, diet as it affects the cancer patient, and surgery.

Ewing discusses some of the problems which are best studied in the special cancer laboratory in a large cancer hospital where an extensive material is available for observation. He outlines the laboratory organization of the cancer institute and concludes that "this brief review of the scope of organization of the modern cancer hospital and institute in this country and abroad should stand as assurance to the lay public, to workers in other sciences, to science editors, to directors of industrial research and to government officials, that the cancer problem probably is being handled about as well as may be in this generation with the facilities provided. If society is dissatisfied, then the first step should be to enlarge the resources of cancer service and research, and bring them more in line with those enjoyed by industrial research."