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

Experimental Studies; Animal and Plant Tumors
The Cancer Cell
Etiology
General Clinical Observations
Diagnosis and Treatment
The Skin
The Eye
The Breast
The Thyroid Gland
The Oral Cavity and Upper Respiratory Tract
Intrathoracic Tumors

The Diaphragm
The Digestive Tract
The Pancreas
The Biliary Tract
The Mesentery
The Suprarenal Glands
The Female Genital Tract
The Genito-Urinary Tract
The Nervous System
The Bones and Joints
Lymphosarcoma, Hodgkin's Disease, the Leukemias
Statistics and Education

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

As abstractors are never perfect, and as the opinions expressed may on occasion seem to an author not to represent adequately his position, opportunity is offered any such to submit his own views for publication. The JOURNAL will not only welcome correspondence of this nature but hopes in the future to have a large number of author abstracts, so that the writer of a paper may present his subject in his own way.

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

EXPERIMENTAL STUDIES; ANIMAL TUMORS


The author reviews the production of tumors by tar and the more recent carcinogenic agents. In his own experiments no early change could be discerned in the skin of mice painted with benzpyrene save an alteration in the nucleus-cytoplasm ratio and a certain irregularity in the arrangement of the epithelial cells.

Whether the final outcome will be a carcinoma or a sarcoma depends in the main upon the tissues to which the compound is applied; painting generally elicits a carcinoma, injection a sarcoma.

The paper closes with a discussion on the bearing of recent experimental work upon etiology and treatment in the human subject. It is illustrated by graphic formulae, photomicrographs, and photographs of animals bearing benzpyrene tumors, and includes a useful bibliography.

Wm. H. Wogлом


In testing the carcinogenic potency of dibenzanthracene and other compounds it has been the custom to dissolve them in a fatty vehicle, control animals being injected with the same material minus the carcinogenic agent. No tumors have appeared in control mice subcutaneously injected by the authors with lard or olive oil. But 8 out of 193 rats similarly treated developed spindle-cell tumors at the site of introduction, or 5.7 per cent as compared with the 46.3 per cent receiving lard or olive oil containing dibenzanthracene.

Tumors following the injection of fat required a long time for their development, none appearing in the first year. Of the total number of rats treated, 99 lived for a year or more and it was in 8 of these that the tumors arose. No metastases were observed, and none of these growths could be transplanted; it is suggested, therefore, that they may represent a low grade of neoplasia.

Heated lard elicited similar neoplasms in rats but none in mice.

Repeated intraperitoneal injections of lard or olive oil into 60 rats and 80 mice did not cause spindle-cell tumors, but in 1 rat and 2 mice lymphosarcomatosis occurred. A more extended experience would be required, however, to establish a connection between the disease and the injections.

The article is illustrated by six photomicrographs and accompanied by a number of tables and a bibliography.

Wm. H. Wogлом


When an irritant like silica, bouillon, or starch was repeatedly injected into the nape of the neck, and a carcinogenic compound such as 1 : 2 : 5 : 6-dibenzanthracene into the peritoneum and groins, not one in a group of 362 rats and mice developed a growth at the focus of chronic irritation provided by the silica, bouillon, or starch, though about half of those that survived for four months or more eventually showed tumors at the site where the carcinogenic agent had been introduced.

These results do not support the frequently repeated statement that non-specific chronic irritation is a cause of neoplasia.

Wm. H. Wogлом

Like Cook and his collaborators the authors find that methylcholanthrene has a higher carcinogenic activity than benzpyrene, for in a group of 67 mice painted with the former the percentage of occurrence was 77 as compared with 55 per cent for 85 painted with benzpyrene.

Besides cancer of the skin, a rather large number of the animals painted with these compounds developed mammary carcinoma when they were hardly one year old. In this respect methylcholanthrene was particularly active, having produced cancer of the breast in 20 per cent of the treated animals, a proportion much higher than occurred among normal mice of similar age in the authors' colony.

Thus these agents resemble tar in eliciting tumors at sites other than that to which they have been directly applied.


Eighty tumors that were induced in mice of pure inbred strains by means of a single injection of 0.2 mg. of 1 : 2 : 5 : 6-dibenzanthracene were 100 per cent transplantable into mice of the same strain but, with two exceptions, were not transplantable in mice of a different pure inbred strain. Each of these tumors brought about concurrent with its growth an increase in the host's polymorphonuclear blood cells, the severity of neutrophilia induced being peculiar to that particular tumor.

Repeated grafting of myeloid-stimulating dibenzanthracene tumors into mice of an alien strain brought about in some of the animals an alteration that permitted a growth of the tumors to which they had hitherto been resistant, and also brought about a change in some of the tumors themselves by which they became transplantable into mice of alien strains. The alteration of the host's resistance and the change in the tumor's strain specificity were each accompanied by the development in the host of a more severe myeloid hyperplasia than that produced by the growth of the strain-specific tumor in a host of its own strain.

A bibliography is appended.


The authors confirm the observation of Koch and Maisin [Compt. rend. Soc. de biol. 120: 106, 1935. Abstr. in Am. J. Cancer 29: 570, 1937] on the inhibiting effect exerted by organic peroxides upon the development of benzpyrene tumors, and extend the experiment to include performic acid. Among 52 mice injected with this compound and surviving for 210 days, 31 per cent developed cancer as compared with 69 per cent of 68 untreated controls. Salts of the acid were even more efficacious and their action was less evanescent. The inhibiting effect, which is not common to all peroxides, is non-specific, depending merely upon detoxication of the benzpyrene.

Wm. H. Woglon


Having vainly attempted excision of the nerves supplying the rabbit's ear, the authors turned to alcohol injections, introducing 1 c.c. at the base of the right ear seven times over a period of six months. After the third treatment tar painting of both ears was begun and carried out three times a week. During the fifth month all the rabbits developed on the left ear progressively growing papillomas which attained the size of a nut in the following four weeks. Although tar painting was continued, no
tumors appeared on the right side. The absence of neoplasms is referred to lesions produced in the nerves by the injections of alcohol.

[The number of rabbits employed is not stated and the authors refer to none of the many previous investigations in this field.]

Wm. H. Woglon

**Leukemoid State and Bone Lesion Produced by Intramedullary Injections of Tar,**


A monkey was given eight injections of tar into the tibial marrow at weekly intervals. After two months the white count suddenly rose from 8500 to 70,000, reaching a peak of 120,000. It later dropped, but remained above 80,000 for four months. The polynuclears increased in the beginning from 70 per cent to 88 per cent. A progressive anemia developed, and myelocytes appeared in the blood stream during the second month of the leukocytosis, two months after the completion of the injections. Three months after the last injection a swelling of the right tibia was observed, and a month later the monkey was killed. At that time the total leukocyte count was 85,000, with 12 per cent myelocytes and 11 per cent leukoblasts. Nucleated red cells were also observed.

Autopsy showed an enlarged spleen and a mass in the tibia, but the lymph nodes, kidneys, and lungs were normal. In some sections the sinuses of the liver contained numerous polynuclear cells and some metamyelocytes, but changes in the liver comparable to those in human leukemia were not observed. The spleen for the most part was normal but contained areas of myeloid metaplasia. The tumor of the tibia, which was at the site of the injections, showed a foreign body reaction to tar. There was also a hyperplasia of connective tissue, but no changes to suggest myeloma or malignancy. Examination of the bone marrow of the humerus showed cellular proliferation with numerous polynuclears, myelocytes, leukoblasts, and nucleated red cells. There was no evidence of abscess formation. Photographs of the tumor of the tibia are included, and tables show the blood counts.

The author does not believe that the animal had true leukemia, though the findings did not differ greatly from those of leukemia. A few references are given.

Charles A. Waltman


Forty-five adult white leghorns were either fed daily with 100 mg. of o-amidoazotoluol for 273 days, or injected intramuscularly with a 10 per cent aqueous solution for 265 days. Adenocarcinoma of the liver developed in 3 of the fowls that received injections. During the first five months of the experiment there was no marked change in the liver, but after the lapse of seven months, in both groups of fowls it showed increase in size and hardness, and flecks appeared on the surface. Inflammatory degeneration, proliferation of the bile duct epithelium, and hardening preceded tumor formation. This paper is illustrated by four photomicrographs.

Tissue respiration of liver, measured by Warburg’s method, was diminished by o-amidoazotoluol, but the aerobic and anaerobic glycolysis were markedly accelerated.

[Part I (Jap. J. Obst. & Gynec. 19: 337–343, 1936) of this series concerned the retarding influence of o-amidoazotoluol on the thyroid and liver of the chick embryo. Part II (Ibid. pp. 343–347) reported changes produced by this substance in the thyroid of the mature fowl, interpreted by the author as metaplasia of the follicular epithelium.]

K. Sugiura


Radium-filled platinum tubes 1 cm. in length, 0.55 mm. thick, and containing 0.1 mg. of radium element were implanted into the tissues of 9 rabbits, of which 7 developed malignant new growths in immediate relation to the tubes after from 97 ½ to 167 weeks.
The effective agent in these experiments is presumed to have been feeble gamma radiation, acting over a long period of time, for only a small fraction of high-speed beta rays could have penetrated 0.55 mm. of platinum.

One of the neoplasms was an osteogenic sarcoma, one a myxosarcoma, 3 were spindle-cell sarcomas, and 2 were squamous-cell carcinomas, the type of growth produced depending upon the tissue in which the tube was embedded. Three sarcomas and one carcinoma had metastasized.

A report of the outcome attending transplantation will be published in the future.

The paper is illustrated by photomicrographs and accompanied by a table and a bibliography.


The authors have attempted to answer the question whether disturbances in sexual function can, of themselves alone, give rise to tumors. They therefore employed the rat, an animal that is not especially prone to develop neoplasms either spontaneously or in response to the application of carcinogenic agents, and, for an irritant, only such measures as are not apt to elicit new growths when used alone—injectons of rat embryo, cholesterol, lactic acid, or a wound kept open by repeated curettage and applications of silver nitrate.

Four groups of animals were employed, comprising in all 80 adult males or females in equal number. Most of the rats, but not all, were albinos. The diet was a mixed ration supplemented by an abundance of green food. Forty of the rats were castrated, the other 40 serving as unoperated controls.

As the abrupt alteration induced in the organism by castration is not comparable with those slow changes that accompany involution of the sex-glands in advanced life, the experiment was broadened to include 20 parabiotic pairs of rats. Some of these pairs were of the same sex, some of opposite sexes, in some neither partner was castrated, in others one, and in still others both partners, so that all possible combinations were included. Three pairs were untreated, two were injected with rat embryo, 8 with cholesterol, and seven had curetted wounds.

The results of the experiment were unequivocal. All the non-castrated rats save one male, which developed a carcinoma of the lung, remained free of neoplasms, whereas malignant tumors arose in 5 of the single castrated animals and in 2 of the parabiotic pairs in which both partners had been castrated; in 3 instances these growths metastasized.

[Except for one of the 9 photomicrographs, said to represent a carcinoma arising at the site where rat embryo was injected and in respect to which the abstractor confesses some doubt, none of the illustrations is in the least convincing. All the other lesions described as sarcomas or carcinomas might equally well have been granulomas so far as the illustrations go.]

It is to be noted, too, that not one of the 7 remaining "tumors" arose at the site of irritation, but from the mesentery in 4 instances and the lung in the remaining three; and furthermore, that the lungs in 2 of these three remaining cases were hyperemic or inflamed and the lesions more or less soft and grayish yellow in color. All this suggests to the abstractor the pulmonary disease, so common in laboratory rats, that has been described under the term chronic bronchiectatic pneumonia (See Teutschlaender, Verhandl. d. deutsch. path. Gesellsch. 17: 460, 1914).]


There is no agreement at present respecting the effect upon new growths of the gonadotropic hormone from the anterior lobe of the pituitary, and as the problem is of fundamental importance the author has taken it up once more.

In order to avoid the possibility that the necrosis of the tumor described by some investigators may have been due solely to microorganisms introduced during the in-
experiments, the author has made use of the animal's own hormone by way of castration. The increase of gonadotropic hormone in the pituitaries of castrated female rats is so great that four months after the extirpation a quarter of a gland will suffice to elicit a reaction in infantile female rats such as would require from 4 to 6 hypophyses from normal rats.

In a large number of experiments the taking and growth of a tumor were definitely reduced if it was inoculated into castrates at a time when half a hypophysis would elicit the characteristic reaction. On the other hand, a neoplasm took better and grew more rapidly when implanted soon after castration.

These results were confirmed by an examination of tumor metabolism. This was found to be augmented in neoplasms removed from recently castrated animals, and so greatly inhibited in those from rats long since castrated that in some instances respiration had fallen to zero. Thus the contradictory reports on the effect of prolans can be explained by differences in the quantitative and temporal factors obtaining in the experiments of various investigators.

The assumption of a relationship between gonadotropic hormone and tumor growth led to an inquiry into the condition of the sex organs in animals bearing transplanted tumors. Irregularities of estrus were observed in females, while in males the testes were atrophic and exhibited a metabolism corresponding to this condition. [This work confirms the observation of Murphy and Sturm (J. Exper. Med. 42: 155, 1925) that male and female mice are fairly resistant to inoculation three months after castration and still more so eight to twelve months after.]


The author reviews the literature concerning the effects of vitamins on tumor growth. He reports a first series of experiments involving 36 white mice, 12 maintained on a diet poor in vitamin E, 12 on a diet rich in vitamin E, and 12 controls. The sexes were equally divided in each group. A filtrate containing cells of the Ehrlich adenocarcinoma was injected in half the animals a month after the diet was begun and in the others two months after it was begun.

In general the diet rich in vitamin E appeared to favor tumor growth and development in the male animals and inhibit such development in the females, while the low-vitamin E diet seemed to have the opposite effect. The control animals showed a greater development of tumors among the females than among the males. The author believes that the difference in the reactions of the sexes to the experimental diets is due to definite changes in the sex functions which appear to be the result of the diets.

In a second experiment the author studied the effect of similar diets on cutaneous tar tumors. Of 45 animals used, however, only 22 survived a sufficient period to permit of tumor development. The conclusions drawn are therefore of little positive value, because of the small number of animals in each group and the unbalanced sex distribution of the survivors. In general the use of a diet rich in vitamin E appeared to favor the development of tar tumors, especially in the male animals. While in the males the high-vitamin E diet appeared to exert an inhibitory effect on the malignant degeneration of the tar warts, in the females there was no such effect observed. JEANNETTE MUNRO


The authors first established the customary rate of metastasis for a number of transplantable rat and mouse tumors. This figure, chiefly for pulmonary metastases,
ran from zero for two rat sarcomas of their own and an unspecified mouse carcinoma obtained from Murray, through 1 per cent for the Flexner-Jobling rat carcinoma and 12 per cent for a transplantable tar carcinoma of the mouse, to 25 per cent for the Jensen sarcoma.

Excision, particularly when repeated, favored metastasis, the rate for the Jensen sarcoma rising to as high as 82.5 per cent, while tumors which never metastasized spontaneously could be made to do so by this means.

The popular and simple explanation, that tumor cells gain access to severed blood and lymph vessels, is inadequate, for it is now held that only a small proportion of malignant cells attaining the circulation succeed finally in establishing themselves. In order to test the validity of this modern view, the authors inoculated the blood or other organs from rats bearing the Jensen sarcoma. The outcome with blood was negative; among 20 rats inoculated with lung there developed one sarcoma, which ultimately regressed; of 18 that received spleen one developed a progressively growing sarcoma, a result of particular interest because among hundreds of animals bearing the Jensen tumor no macroscopic metastasis had ever been encountered in this organ.

Two features of this experiment deserve emphasis. First, a positive outcome following the inoculation of organs from a tumor-bearing animal is no evidence for the existence of an etiological virus, as certain authors, Blumenthal and Besredka and Gross among them, have asserted. On the contrary, transmission results from the presence of tumor cells in the blood stream. Secondly the varying degrees of success recorded by different authors no doubt depend upon such factors as the tumor employed and the stage in its growth at which the organs are removed for inoculation.

In any case the experiment proves that cells from transplantable tumors, as from spontaneous ones, are widely distributed throughout the organism. In most cases, however, they do not multiply; large numbers of them are probably destroyed, while those that do remain viable produce at the most a latent carcinoma.

Again, inoculation even into highly vascular organs like the liver or the spleen was not followed by metastasis, though the resulting tumors grew perfectly and actually invaded the blood channels at many points, as microscopic examination proved.

Thus, if ablation favors metastasis, it is not because tumor cells escape into the vessels but because the operation transforms a latent into an effective carcinosis. This change is brought about in all probability by a complex mechanism which includes such diverse factors as hemorrhage, the production of trephones, and those humoral changes which attend any major operation. But this is not all. There appears to be concerned, in addition, a release of proliferative capacity that cannot be explained in the simple terms of the athrepsia hypothesis, for much more is involved than mere deliverance of the remaining tumor cells from the necessity of competing for nutriment. Neither will the increased length of life resulting from the extirpation of a neoplasm account for the increased frequency of metastasis after operation.

In conclusion the authors emphasize the fact that findings obtained in experiments with one transplantable tumor cannot be applied to another, and still less to spontaneous new growths in the human subject.

WM. H. WOGLOM

Investigations on Tumor Immunity, 1st Communication, G. KLEIN and J. KLINKE.


The authors report that unsuccessful inoculation of mice with a mouse carcinoma did not protect them against a mouse sarcoma [both tumors unspecified].

Experiments with the Flexner-Jobling rat carcinoma and the Jensen rat sarcoma showed that rats unsuccessfully inoculated were more or less refractory to a second attempt with the same tumor. A somewhat more active resistance was engendered when the first implant attained a small size and then regressed, while the disappearance of growths larger than a cherry was followed by almost complete resistance. The degree to which animals proved refractory bore no relation to the length of time elapsing between the first transplantation and the second.
On the other hand, unsuccessful inoculation with a heterologous neoplasm, the Ehrlich mouse sarcoma grown temporarily in rats after the method of Putnoky, elicited in rats an almost perfect resistance against this tumor, even when frozen material was employed. A similar mouse-rat tumor, the Matolcsy sarcoma, protected rats against itself and against the Ehrlich-Putnoky tumor but not against the Flexner-Jobling carcinoma or the Jensen sarcoma.

In discussing these results the authors emphasize the failure of a mouse carcinoma to protect mice against a mouse sarcoma, an observation indicating in their opinion that a specific resistance had been induced against carcinoma which was not valid against sarcoma. The alternative explanation, that the sarcoma was vigorous enough to overgrow this resistance, is rejected.

A specificity in resistance was indicated again in the mutual protection exerted by one mouse-rat tumor against the other and the failure of these growths to produce any resistance against either of the rat tumors employed.

The paper is accompanied by charts, tables, and a bibliography.

[The abstractor would raise the question whether the resistance elicited against one mouse-rat tumor by the other was not directed against mouse tissue rather than against mouse tumor. It has recently been shown that the Ehrlich-Putnoky tumor proliferates only temporarily in the rat and consists, throughout its course in this species, of mouse cells (Selbie: Am. J. Cancer 28: 530, 1936). This being so, it might well be expected to immunize the rat to mouse tissues simply as mouse tissues, which as Bashford and Russell showed many years ago (Proc. Roy. Soc., London, Series B, 82: 298, 1910) is quite another thing from immunization against tumor as tumor.

The experiments of Russ and Scott (J. Path. & Bact. 30: 564, 1927) are not mentioned. Here rats refractory to one sarcoma were about equally resistant to another and were protected to some extent, also, against a rat carcinoma, while those immune to this carcinoma were partially refractory to the sarcomas. Though no specificity in the immune reaction is thus evident, a certain degree was suggested, on the other hand, by the absence of any cross immunity between one of the sarcomas and another carcinoma. The tumors employed were the Jensen rat sarcoma, sarcoma 16 of the Imperial Cancer Research Fund, carcinoma 9 from the same institution, and the Middlesex carcinoma.

Burrows (J. Path. & Bact. 34: 802, 1931), in conformity with some of these experiments by Russ and Scott, observed an absence of specificity, mouse sarcoma 37 protecting completely against mouse carcinoma 63.

In spite of all the attention that has been applied to this problem it is clear, therefore, that nothing definite is yet known regarding the specificity of the refractory condition.]

WM. H. WOGLOM


A study of the sera of rats receiving implants of Jensen's rat sarcoma showed the presence of certain characteristic cytotoxins, the concentration of which bore a direct relationship to the ultimate fate of the tumor. The serum of every rat in which a tumor was regressing contained at some time or other a titre of cytotoxins varying from 2 per cent to 80 per cent (average 17.7 per cent). If the tumor were growing progressively, the serum never contained a titre of over 2 per cent (average 0.4 per cent).

From the observations it would appear that the production of these cytotoxins is part, at least, of the mechanism by which spontaneous regression of tumors takes place.


Eleven days after the hypodermic implantation of a brain tumor from a four-year-old child in a mouse, ulceration arose at the site of injection after the wound had healed by first intention. The graft was resorbed at that time, and histologically the tumor was a polymorphous-cell sarcoma. It caused the death of the animal after about two weeks.
Transplantation succeeded in 11 generations of mice; also transplantation from mice to rats and from these back to mice. The rat tumors showed rapid involution and a different histologic structure, and the animals did not die. As the grafted tissue itself does not develop, the author assumes that the sarcoma in mice is due to a germ. Since positive results were obtained when dilutions of the brain of tumor mice were implanted, but liver, spleen, and other growths produced no tumors, it is concluded, furthermore, that the germ must be present in the brain of the mouse during the development of the sarcoma.

F. Burgheim


Among 132 rabbits inoculated intratesticularly with the Brown-Pearce carcinoma, 8 developed single or multiple metastases in the skin after from twenty-three to fifty-four days. Almost all the other organs of the body were similarly involved.

Wm. H. Wogloon


Exstirpation of the thyroid gland did not materially affect intracutaneous grafts of the Brown-Pearce rabbit carcinoma. At the most there may have been some slight acceleration of growth when inoculation was delayed until the effects of ablation had reached their height.

Wm. H. Wogloon


When the Kato rabbit sarcoma metastasizes to the bones, which is not very frequently, it selects by preference the long bones and the ribs. Those secondary growths observed were still confined to the marrow cavity because the animals died of metastases in other organs before the bone itself could be attacked.

The paper is illustrated by photomicrographs and photographs of gross specimens.

Wm. H. Wogloon


The assertion of Klein that mammalian tumors can be transferred by cell-free material aroused the greatest interest because it controverts a long-established belief. Already it has been twice contradicted and Scharer now delivers a third blow.

As the greater part of a subcutaneous graft undergoes necrosis a few days after transplantation, the interpretation of events running their course in and about it is embarrassed by irrelevant reactions. The author therefore introduced into the veins of mice a suspension of ascitic fluid from mice bearing intraperitoneal Ehrlich carcinoma and studied the behavior in the lungs of single cells or small cell groups.

The injection of 0.1-0.2 c.c. of such fluid diluted 1 to 2 with Tyrode's solution caused the death of practically all mice from pulmonary and pleural carcinoma in three to four weeks, with metastases in the kidneys or in the lymph nodes at the hilus of the lung.

The development of these pulmonary tumors was followed at twelve-hour intervals for 156 hours, after which animals were killed for examination every twenty-four hours. This histological investigation led to the conclusion that the neoplasms arose exclusively
from cells which had been able to survive transfer to a new host, and not from an extracellular agent.

As a side issue, various organs from intravenously injected mice were transplanted into other mice, where none gave rise to tumors save those in which cancer cells could be microscopically demonstrated.

Thus the investigation supports the classical view that this mouse carcinoma is the product of intact tumor cells alone rather than of a principle separable from them.

The article is illustrated by four photomicrographs. WM. H. Woglon


The demonstration by Rous of an agent separable from the cells of a chicken tumor naturally stimulated attempts to discover such a principle in other malignant neoplasms, and success has been reported with increasing frequency during the past few years. But whereas concordant results were immediately reported from all sides in the case of the Rous sarcoma, hardly a single investigator has been able to reproduce the findings of another where mammalian new growths are concerned.

Because of the renewed interest in this question the author describes some experiments which were carried out several years ago but not recorded in print at the time because the outcome was entirely negative. Emulsions of mouse tumor combined with embryos from various species were inoculated into the same or a different species, sometimes immediately, sometimes after they had been incubated for two hours at 37°.

Thus, for example, in one experiment a mixture of mouse tumor and young rat embryo was introduced into rats and fowls. In no case was there any indication of malignant growth. WM. H. Woglon


The cutaneous papillomas induced in domestic rabbits with a virus procured from western cottontails have the immediate attributes of tumors and frequently become cancerous, but the problem of what relation the virus bears to these neoplastic activities is complicated by a singular difficulty; though readily obtained from most of the naturally occurring papillomas of cottontails, the virus cannot ordinarily be recovered from the far more vigorous growths which it elicits in domestic rabbits. For this reason, recourse has been had to a serological method to determine the presence of the virus.

The neutralizing influence of serum from rabbits carrying the Shope papilloma was assayed, the conditions governing the development of antiviral power were investigated, and the blood of animals with tumors of various sorts was examined for virus. The findings are recorded in this and a following paper [see following abstract].

The serum of rabbits bearing papillomas was found usually to exhibit neutralizing powers when mixed with virus prior to its inoculation, and the rate at which this neutralizing capacity increased depended in general upon the amount of papillomatous tissue that had developed, though in exceptional instances it was not sufficiently active to be demonstrable in serum from animals with fairly large tumors.

Even when the antiviral power was great, however, it had no evident influence on the course of established papillomas, other factors determining whether these were to enlarge or retrogress. It did, nevertheless, prevent successful reinoculation.

The paper is illustrated by two charts and a photograph showing the tumors produced by inoculations of virus mixed with serum. WM. H. Woglon


The titration for antiviral power of serum from rabbits bearing the Shope papilloma [see preceding abstract] was extended to include those with other types of epithelial growth.
Serum from a rabbit with large cancers produced by transplanting a squamous-cell carcinoma that had arisen in a virus-elicited papilloma was found to neutralize the virus to some small degree, as did also, though still less actively, that from another rabbit in the same transplantation series with only a small nodule of problematic nature. But the serum of rabbits with tar papillomas or the Brown-Pearce carcinoma proved wholly inactive.

The findings mean that the Shope virus had been transferred with the cancer, an expected event since wholly alien viruses often thrive in neoplasms into which they have been experimentally introduced and can be transferred therewith. In view of this fact it is remarkable that implantation of the Brown-Pearce carcinoma mixed with Shope virus did not lead to an enduring establishment of the latter in the resulting growths, for these are certainly of epithelial, and presumably of epidermal, nature. The virus, if active, could hardly have been outgrown and left behind, for it is known to persist in the papilloma, which increases very rapidly in size. The remarkable specificity of this virus, which will not "take" on the gums or tongue of rabbits though highly effective on the neighboring epidermis, may explain its disappearance.

The article is accompanied by numerous tables, and illustrated by two photomicrographs and a photograph of a gross specimen.


Domestic rabbits were inoculated in scarified areas of standard size with serial dilutions of virus or with virus partially neutralized by immune serum. According to the concentration of virus the resulting papillomas ranged from solitary or scattered nodules to confluent masses occupying the entire area.

The larger the area involved by papilloma, the more vigorous the proliferation of this tumor, and the more concentrated the virus used to incite it, the earlier did carcinoma develop, though even in the most favorable instances it arose only after months of proliferation, and usually in the oldest portions of the papillary outgrowth.

Malignant change in cottontail rabbits, natural hosts of the virus, is a rare event, for in them the papilloma generally regresses. The authors have encountered, however, a carcinoma and a sarcoma at the base of papillomas which, resulting from experimental inoculation, had existed on the ears of a cottontail rabbit for nearly two years. The virus and the wild rabbit are evidently habituated to one another, as is often the case when association between a parasite and its host species has endured for a long time.

The paper is illustrated by photomicrographs and photographs of gross specimens.


The papillomas caused by the Shope virus sometimes grow down spontaneously into the subcutaneous tissue and extend along the lymphatics in the same way as do many cancers of the human breast. They may even invade the voluntary muscle, taking on an aspect suggestive of squamous-cell carcinoma but ultimately differentiating in the characteristic manner of the papilloma. Slight operative interference may be followed by the appearance of secondary nodules in the lungs resulting from cell emboli.

Malignant transformation is preceded by alterations in the aspect and behavior of the papilloma such as increased vigor of growth, loss of pigmentation, the development of a tough fleshy base, the crowded disorder of its cells with their extension downward and laterally, and an increasing irregularity in keratinization. The more vigorously a papilloma grows, the more likely is it to undergo this change, which is obviously the outcome of favorable conditions that may be both local and transient.

The relation of the virus to the cancer is far closer than that noted for any of the
other carcinogenic agents so far investigated. These bring about a chronic tissue disturbance upon which cancer arises as an essentially different pathological process, and no evidence exists that they do more than predispose to the neoplastic condition. Dibenzanthracene, the only one of them that has been adequately followed, disappears from the tumors to which it gives rise.

The virus, on the other hand, directly engenders growths of neoplastic character in which it persists in increasing amount and from which a variety of other tumors arise, cancer among them, by changes that are gradual and often slight. Though it requires a whole series of favorable events before its carcinogenic activities can unfold, this virus is nevertheless the nearest cause for cancer so far encountered.

The paper is illustrated by photomicrographs and photographs of gross specimens.

WM. H. WOGLOM


In earlier investigations (Compt. rend. Soc. de biol. 97: 336, 1927) the author and his associates succeeded in curing the Rous sarcoma by radiotherapy, though doses of 10,000–15,000 r, standing at the limit of tolerance for the normal tissues, were requisite. *In vitro*, however, filtrates or fresh fragments of the tumor withstood more than 60,000 r with no diminution in virulence.

A similar difference in the radiosensitivity of tumor cells and etiological agent could be brought out even more clearly in the case of the Shope rabbit papilloma. This was permanently cured by a total dose of 5,000 r over two to four days, even when confluent growths covered an area of some 30 sq. cm.

The effect was noticeable on the day after treatments had been begun. The mass began to decrease in size, retracting at the base, and the crust overlying it became dry, hard, and elevated. By about the fifteenth day this covering began to crumble away toward the periphery, disclosing thin, hairless, unulcerated skin, and at the end of three weeks the tumor had disappeared and hair began to grow in at the periphery of the healed lesion.

A total of 2200 r spread over fifteen days, on the other hand, damaged the growth only temporarily, recurrence setting in two weeks after the exposures had been discontinued.

Small isolated papillomas shrivelled and fell off about eighteen days after inception of the treatment.

Radiation was effective only when the tumor was directly exposed, those protected from the rays undergoing no change as the treated one receded.

Thus this papilloma could be made to disappear by doses too small to cause even a radiodermatitis on healthy skin. Its infected cells seemed more radiosensitive by reason of their disease. In any case cure certainly did not result from destruction of the virus, for this was extremely resistant, preliminary experiments suggesting that more than 25,000,000 r would be necessary to destroy it.

WM. H. WOGLOM


The virus of the Shope rabbit papilloma resisted pressures up to 4000 atmospheres but was destroyed at 6000. The Brown-Pearce rabbit carcinoma, on the contrary, could stand 1000 atmospheres but not 1800. This confirms the results of a previous investigation, in which mouse tumors were found more sensitive than the Rous virus to high pressures [see Basset et al.: Compt. rend. Acad. d. sc. 200: 1247, 1935. Abst. in Am. J. Cancer 27: 762, 1936]. In other words, filtrable tumors are as resistant as certain ultraviruses and bacteriophages, whereas non-filtrable neoplasms are more easily destroyed.

WM. H. WOGLOM
An Unsaturated Fatty Acid Fraction of Pig Pancreas which Inhibits the Growth of Chicken Sarcoma, O. M. Helmer. J. Exper. Med. 64: 333-338, 1936.

The agent in pancreas which inhibits the Rous chicken tumor is found principally in the unsaturated fatty acid fraction. The final product, extracted according to a method which the author presents in detail, closely resembled oleic acid in its iodine number, molecular weight, and physical properties, and commercial oleic acid was also found to inhibit the sarcoma in comparable quantities. This does not mean necessarily that the agent is oleic acid; further purification will be necessary for its identification. Activity was completely destroyed by hydrogenation.


The experiments described in this paper were undertaken because of the importance in certain types of chemical and physico-chemical research, of distinguishing between living and dead cells. While there is general agreement that vital dyes stain the nucleus in dead or severely impaired cells, the findings regarding the living cell have been less uniform.

Cells of mouse sarcoma 37 and of several normal tissues of the mouse were examined by the authors with respect to their behavior towards neutral red upon immersion in balanced salt solutions containing that dye. At 38° C., only a small proportion of the cells contained stained nuclei initially; the number of cells with nuclear staining increased with time of immersion. The rate of increase in the proportion of cells with stained nuclei was less the lower the temperature.

The two types of cells, designated as "round" and "spindle," preponderating in sarcoma 37 differed in their reaction towards neutral red. At 38° C. the great majority of the round cells contained initially stained bodies in the cytoplasm (i.e., vitally stained); the great majority of the spindle cells were initially colorless. Vital staining in spindle cells was observed to fade progressively until the cells were entirely colorless. The subsequent behavior of the vitally stained round cells paralleled that of the colorless spindle cells at all temperatures.

Under these conditions the authors believe that it is probable that the colorless spindle cells are alive.

A bibliography is appended.


The authors applied the test of vital staining to cells of mouse tumors and normal mouse tissues swollen by immersion in salt solution and concluded that such cells were alive. The bulging of the tumor cells due to the entrance of water (see Shear, Am. J. Cancer 23: 771, 1935) is, therefore, not a post-mortem change. Some cells with bulges were found to live as long as cells without bulges. Both vitally stained and colorless cells with bulges remained alive for longer periods in protein-containing solutions than in control protein-free solutions. The dyes used in the tests were neutral red, methylene blue and trypan blue.


The authors studied the respiratory and aerobic and anaerobic glycolytic rates of pure cultures of malignant cells of Walker rat sarcoma 319 in Ringer's solution under various conditions. The sarcoma cells growing in cultures were found to retain the metabolic characteristics of the tumors as determined by experiments with excised tissue, reported by others. They had relatively greater rates of aerobic glycolysis than normal fibroblasts growing in plasma. Glucose increased the R.Q. and decreased the respiratory rate of the sarcoma cells. The mean R.Q. in the presence of 0.2 per cent glucose was
0.74; without glucose it was 0.60. These results suggest that sarcoma cells oxidize glucose. The duration of cultivation was without effect on the metabolism.

A bibliography is appended.


An attempt was made to determine the vitamin C content of extracts of Walker rat carcinoma 256 and the Jensen rat sarcoma by a colorimetric method and by ultraviolet spectrophotometry. The results with the two procedures were in good agreement, and the authors found no indication of the presence in the extracts of reducing substances other than vitamin C. A bibliography is appended.


The authors determined the gaseous metabolism of tissues from the rabbit and white rat by Warburg’s method. Non-inflammatory granulation tissue and mechanically stimulated urinary bladder tissues were more active in their gaseous metabolism than normal tissues.


Histologic differences in the thyroids of mice of five strains observed following the application of estrone, benzene, or alcohol to the skin, showed no correlation with the incidence of mammary cancer in these strains. Seven photomicrographs are included.


The authors have previously shown (Lancet 1: 247, 1936. Abst. in Am. J. Cancer 28: 781, 1936) that degenerative changes develop in the adrenals of both male and female mice of mixed strains after the continued application of estrin to the skin. Identical changes have now been found as a regular occurrence in the adrenals of untreated males and females of a genetically pure strain of mice (the Dobrovolskaia-Zavadskafa strain R 111). These changes are progressive and eventually involve both cortex and medulla. They are of a specific kind and have not been observed to occur spontaneously in the adrenals of mice of mixed strains up to one year of age. It is pointed out that in the R III strain in which these degenerative changes occur, there is a high incidence of spontaneous mammary cancer in the females but not in the males, although in the latter mammary cancer can be induced by the prolonged application of estrin.

A detailed account of these observations is promised later.


Ten mice with tar cancers and 5 with spontaneous breast carcinomas were injected daily with 1/80 mg. of colchicine. In none of the animals was the course of the tumor affected, death following as rapidly as in the untreated animals. The experiment was an attempt to repeat the work of Amoroso (Nature 135: 266, 1935. Abst. in Am. J. Cancer 24: 142, 1935), who reported a marked diminution in the size of mouse tumors treated with colchicine. There are no illustrations.


Ten mice with tar cancers and 5 with spontaneous breast carcinomas were injected daily with 1/80 mg. of colchicine. In none of the animals was the course of the tumor affected, death following as rapidly as in the untreated animals. The experiment was an attempt to repeat the work of Amoroso (Nature 135: 266, 1935. Abst. in Am. J. Cancer 24: 142, 1935), who reported a marked diminution in the size of mouse tumors treated with colchicine. There are no illustrations.


To the 20 recorded instances of spontaneous tumors in the guinea-pig one is added, an osteogenic sarcoma of the femur with pulmonary metastases and a pathological
fracture of the corresponding tibia and fibula. Roentgenograms and photomicrographs are included. The previous reports of spontaneous guinea-pig tumors are listed in the bibliography.


The authors report a number of preliminary comparisons between crown-gall and the surrounding healthy tissues in respect to ash, sugar content, total nitrogen, etc., the results of which are admitted to be valueless until confirmed and completed.

WM. H. Woglom


Five times as much ascorbic acid was found in crown-gall tumors as in the healthy tissues adjoining, and the glutathione content also was increased. WM. H. Woglom

THE CANCER CELL


Changes in the nucleolus of the cancer cell, the subject of this paper, were described as early as 1896. But while some investigators have found this structure to be abnormally large in malignant cells, or oval or irregular instead of round, others have expressed the opinion that these aberrations are not so invariably present as to furnish a safe basis for diagnosis.

The authors examined 50 malignant neoplasms, chiefly carcinomas, and 50 benign tumors, employing fixed or frozen tissues as well as lightly stained smears from cell suspensions. Determination of the nuclear-nucleolar ratio for 10,000 cells chosen at random showed that 96 per cent of these malignant growths had a ratio lower than that found in the benign lesions. Furthermore, whereas more than 2 nucleoli were rarely encountered in the cells of non-malignant tissues, the number was usually increased in malignant cells, where as many as 12 could sometimes be counted.

The cells of the corpus luteum were likewise characterized by a very low ratio.

The conclusion is drawn that determination of the nuclear-nucleolar ratio and of the number of nucleoli is a valuable help in tumor diagnosis, though none of the reported changes can be expected to hold for every single cell encountered.

The paper is accompanied by charts, tables, a photomicrograph, and a good bibliography.

WM. H. Woglom


In carcinomas and sarcomas produced by exposing rats to ultraviolet rays, the nuclear-nucleolar ratio varied between 8.85 : 1 and 13.5 : 1, whereas for normal epithelium from healthy rats the limits were 15.3 : 1 and 29.7 : 1. The nucleoli in the tumors were not only large but very irregular in their number, shape, and staining properties.

This difference in ratio was even more distinct than in a series of human neoplasms studied by two of the authors (v. Haam and Alexander, Am. J. Clin. Path. 6: 394, 1936. Abst. above).

Fixed preparations were employed, as proper fixation has no appreciable influence on the nuclear-nucleolar ratio.
These findings agree with those of MacCarty (Am. J. Cancer 26: 529, 1936) who, however, insists that fresh tissues be used. Guttmann and Halpern (Am. J. Cancer 25: 802, 1935), on the other hand, found no reliable difference. WM. H. Woglom


By applying certain compounds to explants of normal or malignant cells it was found possible to arrest mitosis and, after prolonged application, to destroy those in which mitosis had been inhibited, while resting cells still survived. This effect was brought about by substances of widely different chemical constitution—the diphenylmethane dyestuff auramine, the narcotics ethylurethane and methylsulphonal, the arsenical compound sodium cacodylate, and the alkaloid colchicine. The most specific effect was exercised by sodium cacodylate and colchicine, the latter of which was active in much more dilute solutions.

Arrest was due primarily to the lack of a mitotic spindle, though abnormalities in the chromosomes themselves were not uncommon. Malignant cells in vitro were no more sensitive than embryonic cells to the action of the poisons investigated.

Effects similar to those produced in vitro could be elicited in vivo but it was impossible to inhibit the growth of transplantable tumors without causing severe toxic symptoms.

The article is illustrated by photomicrographs. WM. H. Woglom


A number of observations on the action of heterologous or immune sera in vitro have been published, but in many cases the experiments were carried out with solid media. As interaction between the explant and the fluid to be tested is not rapid and free under such conditions, because the cells are imprisoned in a fibrin clot, the author has substituted a liquid medium composed of serum and embryo extract.

Species-specific antisera for normal tissues were found to cause rapid cell degeneration and death, though not in the few minutes described by Lumsden for the destruction of cancer cells by anti-cancer sera. On the contrary, the first signs of damage to these explants of normal tissue were not manifest until after the lapse of from four to six hours. Even after three months' growth in a heterologous medium cells did not lose their original species characteristics and acquire those of the medium, the recovery which took place after an initial period of slow growth indicating merely an adaptation of cell enzymes to their work of disintegrating the foreign proteins.

In this respect the Rous virus differs from a foreign protein, for it can be taken up into the cells of the fowl without the intervention of enzymes, combining immediately with their cytoplasm to form a new tumor protoplasm capable of self-multiplication. WM. H. Woglom


Normal human serum did not cytolise human cancer cells but, on the contrary, partly or entirely prevented their destruction by autolysis. The protective action of serum from cancer patients was even more pronounced, as Freund and Kaminer stated years ago.

The digestion of cancer cells either by autolytic ferments or by trypsin was delayed or stopped by the presence of proteins such as casein, gelatin, etc., which bound the ferments to themselves. Analogously, the protective properties of serum from patients with carcinoma or febrile diseases are probably due to the presence of ferment-binding proteins that are set free in consequence of tissue destruction, though variations in the proportion of plasma proteins may also be concerned. The inhibition of autolysis by these products of cell death may perhaps be regarded as a means by which the cancer cell protects itself against an innate tendency to degenerate, or against the attacks of heterolytic ferments.
ABSTRACTS

Because they are not specific, those properties in the serum which protect the cancer cell against tryptic digestion or autolysis are of practically negligible value in differential diagnosis.

WM. H. WOGLOM


In a seminiferous epithelioma arising in the testis of a dog the tumor cells had regained the bivalent potentialities of the celomic mesothelium and were differentiating into interstitial cells. The article is illustrated by 4 drawings. [See another paper by Peyron and his associates abst. on page 203].

WM. H. WOGLOM


Like their predecessors, the authors find that metastases in the lymph nodes are more easily grown in vitro than explants from the primary tumor. They were unable to prevent liquefaction, however, and accordingly never succeeded in carrying their cultures beyond the second generation. The medium chosen was fowl plasma, and serum from the new-born proved to be the best accelerator.

The paper is illustrated by photomicrographs.

WM. H. WOGLOM

ETIOLOGY


This popular lecture reviews the salient facts, so far as these are known, respecting the nature and cause of cancer. No new material is added.

The author adopts the view that cancer is not increasing in frequency but actually decreasing, at least in Switzerland. Whether or not this may be ascribed to modern treatment the statistics do not tell. There follows then the familiar description of how a cancer arises at one site and only later spreads through the body. Tribute is paid to the results achieved by both clinical observation and animal experiment in respect to etiology, and the lecture closes with an emphasis on the desperate importance of early diagnosis.

WM. H. WOGLOM


The authors have endeavored to assess, in 1000 patients, the significance of those influences which have been suggested to explain the occurrence of malignant disease. About 0.5 per cent of this group were under twenty years of age, and in all these the neoplasm originated in congenital abnormalities of one sort or another. A hereditary basis was alleged in 8.6 per cent. Chemical or mechanical irritation, inflammation, or trauma and its consequences were concerned in 26 per cent.

The various factors complemented one another. Thus in young persons the occurrence of irritation raised the frequency to 12.7 per cent and irritation and heredity together were responsible in 8.1 per cent, whereas the usual figure for those under forty is but 6.8 per cent.

The conclusion is drawn that constitutional predisposition represents not an irreversible change but a disturbance in biological equilibrium which can be rectified by appropriate measures.

The unreliability of most family histories is rather interestingly brought out. Three patients with carcinoma of the stomach or pancreas said that their parents had died of "heart disease" or "senile debility." It so happened, however, that autopsy records were available which, when examined, proved that the parents of one of these patients
ETIOLOGY

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had died of carcinoma of the stomach and the gallbladder respectively, while the father of the second had succumbed to cancer of the bladder, and the mother of the third to carcinoma of the uterine cervix.

WM. H. WOGLOM


This is a collective review of the recent publications concerning the estrogenic, carcinogenic, and anterior pituitary growth principles and their clinical relation to benign and malignant tumors. Interest in the relationship between estrogenic and carcinogenic principles has been intensified by the fact that certain substances which produce animal cancers are somewhat similar chemically to the estrogenic hormones. The molecular structure of these compounds, which are unsaturated hydrocarbons possessing the tricyclic phenanthrene ring, is very similar. The actions of these principles are also somewhat alike, as each exhibits growth-promoting properties which involve epithelial tissue primarily. Their actions differ, however, in that the estrogenic hormone is essentially a sexual growth-stimulating factor, affecting especially the female genital tract and the mammary glands, while the action of the carcinogenic agent is growth-stimulating to any and all body tissue. The possible relation of the estrogenic hormone to the developing of uterine fibroids, endometriomas, benign and malignant breast tumors, and cancers of the female genital organs is reviewed. [The author recommends the sterilization of all women with cancer of the breast to avoid the growth-stimulating action of the estrogenic hormone, but the practical results even of the removal of both ovaries have never been very striking. The suggestion that the facts could be obtained by studying the five-year cures in postmenopausal women in comparison to those in the younger age groups is interesting, but the age factor would be hard to exclude. Carcinoma of the breast in men is just as malignant as in women. In animals the injection of folliculin does not increase the growth rate of transplanted tumors, so that the effect, if any, is probably not on the cancer cell itself, but through increasing blood supply to the mammary gland and thus furnishing more food to the tumor cells.—Ed.]

Benjamin R. Shore


These three letters are the outcome of an article by Spence (Lancet 2: 970, 1936) in which he reported the failure of oestrin to relieve the symptoms of toxic goiter, and a reply by Foss (Ibid. 2: 1237, 1936), who suggested that the dosage employed was far too low. Foss stated that he had himself employed as much as 1,100,000 international benzoate units in fifteen days in the treatment of kraurosis vulvae and that in some cases full treatment had consisted of 5,520,000 units in 147 days.

Hunt questions the advisability of such massive doses. Referring to the experimental production of tumors in animals with injections of crystallized folliculin, she asks: “Can the risk of stimulating a cancerous neoplasm be entirely dismissed when such injections are given to the human subject, more especially if the subject is predisposed?” To this Cramer and Gye reply by a quotation from an earlier paper by Cramer and Horning (Lancet 1: 247, 1936. Abst. in Am. J. Cancer 28: 781, 1936): “Since oestrin preparations are now being used extensively in gynaecological practice it may be well to point out that the carcinogenic changes here described were produced by the administration of oestrin prolonged over a period representing a considerable fraction of the normal span of life of a mouse and corresponding in man to a period of from 7–10 years, while the therapeutic administration of oestrin preparations in man is, in skilled hands, limited to short periods of a few weeks or months. The development of mammary cancer described in this paper should not, therefore, be used as an argument against the therapeutic application of oestrin preparations.”

Parkes, Bishop and Dodds also point out that the scientific evidence is against any risk of cancer production by oestrin in therapeutic dosage and express the opinion that it
would be "a great disservice to practical therapeutics if the use of sex hormones were to be in any way restricted on account of unsubstantiated speculation."

**Experimental Investigation on the Biological Action of the So-called Terrestrial Rays,**


A zone was mapped out with a divining rod in the hands of an experienced dowser, underneath which he believed water to be present. Whether the active agent really was water, or "terrestrial rays," or some entirely unknown influence is immaterial for the moment; whatever its nature, it produced a definite biological effect. Peas, cress, lentils, oats, and wheat planted in this zone were uninfluenced, but in six experiments carried out over a period of two years cucumber plants were clearly delayed in their growth and withered some two weeks earlier than their controls. Similar results were obtained, also, with celery, but with corn not quite so regularly.

Male or female mice of 3 different strains kept in cages which lay partly on an active and partly on a neutral zone definitely avoided, for the most part, those portions of the boxes overlying the former. Food, lighting, and temperature were as nearly as possible identical in all cases. When the cages were shielded by being placed over celluloid, magnetized steel wire, or a layer of fern the mice nested over the active zone, but foresook it again when the protection was removed. A few of the animals, however, behaved differently from their fel lows.

Having at their disposal a highly carcinogenic sample of tar and a susceptible strain of mice the authors undertook another series of experiments, to see whether terrestrial rays have any effect upon the development of tar cancer, employing nearly 1000 mice in all. In each instance the resulting papillomas or carcinomas developed more rapidly in mice kept over the active zone. Where applications were very frequently made all the animals in both groups eventually developed tumors, but the difference between the two groups was nevertheless unmistakable. Where painting was carried out less often almost all the mice in the active zone developed tumors, but only about half of those in the neutral area. When the cages were shielded by celluloid, cork, or magnetized wire there was no substantial difference between the animals of the two series.

If all sources of error really were eliminated, the only possible conclusion to be drawn is that terrestrial rays actually influence the course of tar tumors in white mice. The problem is now being approached from another angle in order to see whether this inference is justifiable.

The paper is amply illustrated by diagrams and charts.

[No reference is made to the article of Beitzke (Wien. klin. Wchnschr. 48: 959, 1935; Abst. in Am. J. Cancer 25: 666, 1935), who found no more spontaneous cancer among mice exposed to terrestrial rays than among their controls. In this same paper Beitzke refuted the assertion of Vlès and de Coulon that cancer arises more often among mice kept in grounded than in insulated cages. It should be noted that Beitzke had available only about one-fourth as many mice as the present authors; nevertheless, his results seem reasonably clear.]

Wm. H. Woglom


In the fall of 1932 the Bavarian Society for combatting cancer undertook an inquiry into the increasing apprehension over cancer, and the sale of protective apparatus by certain dow sers. A committee of experts accordingly examined a number of so-called cancer districts and cancer houses in respect to such factors as climate, hygienic conditions, terrestrial rays, and radioactive emanations, while, at the same time, attention was paid to the physical and mental characteristics of the tenants, their habits of nutrition, family histories, etc.

The author, who was entrusted with the statistical aspects of the inquiry, assembled data relating to altitude, climate, geology, hydrography, agricultural conditions, density of population, race, occupation, etc., but was unable to perceive any difference between...
cancer houses and those in which few cases or none had been discovered. Cancer houses, so-called, were found at all altitudes, from less than 100 to over 1000 meters above sea-level; on moraines or not; at the water's edge or many kilometers distant; on moist or on dry ground; in agricultural or industrial communities; and in both German and French districts.

This comprehensive inquiry has brought out no unusual features so far. Of 81 houses with 3 or more cancer deaths in the past thirty years the majority were dry, moulds having been found in the cellars of only 4, and none had an uncommonly large number of vermin. The tenants themselves, most of whom were small farmers, laborers, or factory hands, varied in no way from the remainder of the population; familial diseases such as tuberculosis were discovered in only two or three houses; the teeth were uniformly bad; the diet was very simple and included neither an excessive amount of meat nor preserved or chemically treated foods; and intermarriage had occurred in two or three instances at the most. Finally, the influence of civilization on the district is negligible, the population in the southern part at least being wholly agricultural and primitive.

These 81 houses were each investigated in turn by from 2 to 6 dowsers and in every one of them the divining rod indicated the presence of something, though opinions differed widely respecting the nature of the influence; some thought it terrestrial rays, others radio-active emanations, and still others coal, salt, potassium, or ore. Borings could not be made, unfortunately, for lack of funds.

The investigation of other houses showed an effect on the divining rod in 84 per cent of 130 houses with two cancer deaths; 32 per cent of 280 houses with one cancer death; 23 per cent of 750 houses with no cancer death.

While no definite connection could thus be found between cancer and terrestrial rays, there did seem to be some relation to radio-active emanations from the soil, but more evidence must be gathered before a conclusive decision can be reached.

WM. H. WOGLOM


By chance, the author happened to overhear a butcher say that cancer never appears in people who handle raw meat. He accordingly sent out a questionnaire to butchers and from the replies concludes that the handler of raw muscle tissues absorbs through the skin of the hands biological products that protect him from cancer exactly as the insertion of a fragment of normal spleen under the skin of a mouse renders that animal temporarily refractory to cancer implants (Bridrè: Ann. de l'Inst. Pasteur 21: 760, 1907). [Such implantation does not prevent the mouse from developing a primary tumor, however.]

To prevent cancer it is therefore suggested that before going to bed the hands should be rubbed with a mixture composed of muscle pulp, muscle plasma, bone marrow, and connective tissue! A bibliography is included. CHARLES A. WALTMAN


After an extensive review of the literature on the relation of trauma to tumors the author reports 3 cases in which the appearance of a malignant tumor was associated with trauma. These were (1) a squamous epithelioma of the dorsum of the hand, appearing sixteen days after injury with a small piece of iron; (2) Ewing sarcoma of the tibia, appearing three and one-half weeks after a football injury; (3) a squamous carcinoma of the tongue, following traumatization for a year by a stump of a tooth. Two other cases are reported in which trauma was followed by tumors that clinically appeared malignant but microscopically were diagnosed as granulomas. A case of Paget's disease of the tibia with associated trauma to the knee is also described.
The author reviews the Swiss insurance law concerning post-traumatic neoplasms. He believes that single or repeated trauma may cause a malignant tumor, though a general predisposition must be present. Numerous authorities are quoted but no references are given.

Four photomicrographs are included.

CHARLES A. WALTMAN


This is essentially a report of the clinical course and autopsy findings of a case of chronic fibrocaseous tuberculosis associated with a pulmonary neoplasm. The patient was a thirty-nine-year-old watchmaker, with a three-year history of intermittent attacks of cough, asthenia, and night sweats. For six months symptoms had been constant and severe. Sputum examination confirmed the diagnosis of pulmonary tuberculosis. The first indication of a neoplasm was the appearance of generalized skin metastases a week after hospital admission. Death occurred about two months later.

Autopsy revealed the presence of an extensive bilateral fibrocaseous pulmonary tuberculosis. The upper right lung was extensively infiltrated by carcinoma, which had metastasized to the hilum and mediastinal nodes. There were associated adhesive pericarditis, tuberculous typhlitis, and mesenteric lymphadenitis.

Four photomicrographs are included.

ADOLPH MELTZER


A sixty-year-old man is recorded who had been cured of an epithelioma of the nose six years before he came under observation with a carcinoma of the larynx. During a course of radiotherapy for this second tumor he died rather abruptly with hepatic symptoms which autopsy proved had been caused by metastases from a silent carcinoma of the stomach.

The authors comment on the rarity of multiple successive primary neoplasms and upon the difficulty of ascribing each one of the tumors in their patient to local irritation alone. Irritation here could have been only a secondary cause, in an organism already predisposed to malignant disease.

The article contains no illustrations.

WM. H. WOGLOM

Hyperemia in the Precancerous State and in Cancer, V. GHIRON. L'iperemia negli stati precancerosi e nel cancro, Boll. d'lega ital. per la lotta contro il cancro 9: 20–23, 1935.

A general review of both clinical and experimental evidence concerning the possible relationship between increased blood supply and the inception and growth of neoplasms. No bibliography is given.


This is a clinical review of the signs and symptoms of adenomas of the various endocrine glands. There are no new case reports. An excellent bibliography is furnished.

CHARLES A. WALTMAN

Myoblastomas, B. MORPURGO. Mioblastomi, Arch. per le sc. med. 59: 229–252, 1935.

Three cases of myoblastoma are reported. The first was a benign tumor 5 mm. in diameter on the tongue of a woman fifty-four years of age. It was not well encapsulated and was composed of large elongated cells with granular cytoplasm without fibrils or striations. The nuclei were usually eccentric. The cells cut longitudinally seemed to form a syncytium.
The second case was a malignant myoblastoma of the tongue about 1 cm. in diameter in a woman sixty-five years of age. Histologically the cells were much more irregularly arranged than in the previous case, and the nuclei showed bizarre forms. Metastases developed in the cervical nodes and the patient died. No autopsy was performed.

The third case was also in a woman sixty-five years of age. The tumor was on the thigh and recurred twice after removal. It was a malignant myoblastoma.

The benign myoblastomata are made up of undifferentiated but uniform elements, while the malignant forms consist of atypical, but more differentiated cells. These tumors are believed to be dysontogenetic in origin.

Thirteen photomicrographs and twenty references are included.

EDWARD HERBERT, JR.


The author reports an embryonal-cell liposarcoma involving the thigh of a fifty-five-year-old male. Some parts of the growth closely resembled spindle or mixed-cell sarcoma.

A tumor of the breast and one of the leg are briefly recorded which proved on reexamination to be also embryonal liposarcomas, though originally diagnosed as mixed-cell sarcomas, an error that may be more common than is usually supposed.

The paper is illustrated by photomicrographs and a photograph of the gross specimen.

WM. H. WOGLOM


Three cases of hemangioma of striated muscle are recorded. A history of trauma was present in all of the cases but in no instance did it appear to be of etiologic significance. Two photomicrographs illustrate the report.


A diffuse hemangioma involving the muscles of the lower leg of a nineteen-year-old patient is reported. Complete removal of the tumor was impossible because of its size. One photomicrograph illustrates the report.


Two unusual cases of xanthoma are reported. The first was a retroperitoneal growth situated behind the stomach, in a fifty-six-year-old man. It was considered irremovable at operation and only a small portion was excised for histologic study. Postoperative roentgen irradiation was given, but no change in size of the tumor was observed. The patient died almost two years later from cardiac failure. Autopsy was not performed.

The second patient was a forty-nine-year-old man, from whom a gastric xanthoma was removed. He was well, without evidence of recurrence, eighteen months after a Billroth I resection. This is the first instance of xanthoma of the stomach which has appeared in the literature.

Several photomicrographs, photographs of the gross specimens, and a roentgenogram illustrate these case reports.


Three unusual tumors are reported. The first was a peritoneal mesothelioma in a forty-nine-year-old man; the second an osteo-osteoid sarcoma of the breast in a sixty-four-year-old woman; the third a xanthoma of the tendon sheath of a thirty-year-old woman. Several photomicrographs illustrate these cases.
ABSTRACTS


The authors report two cases of splenic metastases in a woman sixty-eight years of age and a man of sixty-five. The primary tumor in the first case was in the head of the pancreas. Histologically it was a carcinoma simplex. There were metastases in the stomach, lymph nodes, and spleen. The spleen weighed 40 grams. The primary tumor in the second case was a glandular carcinoma of the stomach. Metastatic lesions were found in the lymph nodes, liver, lung, kidney, and the spleen. The spleen weighed 170 grams.

The patient with lipoblastic sarcoma was an unmarried woman thirty-two years old. At both sides of the kidneys were large fatty tumor masses which weighed 4320 and 1560 grams respectively. Metastatic growths were found in the peritoneal nodes and Glisson's capsule.

K. SUGIURA


Morris records the successful removal of a teratoma from the buttock of a four-year-old child. The growth contained rudimentary intestine, cartilage, bone, and smooth muscle. Three photographs illustrate the report.

BENJAMIN R. SHORE


A case of sacrococcygeal chordoma is recorded in a man of fifty-nine, in which assay of the urine shortly before death showed 1000 mouse units of prolact per liter. The report includes a photomicrograph, roentgenogram, and photograph of the gross autopsy specimen. A bibliography is appended.

DIAGNOSIS AND TREATMENT

(INCLUDING EXPERIMENTAL STUDIES OF RADIATION)


By purifying the urinary extract and injecting it intravenously the reaction in the rabbit's adrenal upon which the author’s diagnostic test depends could be made more intense and therefore more easily recognizable. But as the method was laborious and the death rate high among the test animals, the intraperitoneal injection of a simpler preparation was substituted.

From 1000–1200 c.c. of urine are precipitated with alcohol; the precipitate is dried in vacuo and dissolved as well as possible in a physiological solution of salts. The filtrate of the partial solution thus obtained is administered to rabbits in divided doses of not more than 5 c.c. each. The reaction thus elicited in the adrenal cortex is so much more definite than that following subcutaneous injection that it is possible to get a better result with twenty-four hour urine than with the forty-eight hour specimens formerly required.

The urine of normal subjects or of patients with diseases other than cancer does not elicit a notable change provided the rabbit remains in good health and loses no more than 200–250 gm. in weight.

[For earlier articles dealing with this test see Abst. in Am. J. Cancer 29: 159, 1937 and papers there cited. See also two following abstracts.] WM. H. WOGLOM


Tagariello (Riforma med. 52: 246, 1936) has objected to Aron’s diagnostic reaction on the ground that the cortex of the rabbit's suprarenal is a highly labile tissue, and has
proposed substituting the guinea-pig as a test animal. He found the cortex in this species so much more stable that alterations produced by the injection of urine from cancer patients were more definite and therefore much more easily interpreted.

The Italian author appears to have undertaken his research without knowledge of Aron's modification of the technic. This consists in the excision of one suprarenal, before the injections are begun, for subsequent comparison with its remaining fellow, a procedure which removes most of the uncertainties consequent upon the lability of the gland in question. Aron, who nevertheless repeated Tagariello's work in the hope that preliminary extirpation might prove unnecessary, finds that while the urine of cancer patients does exert a specific effect upon the suprarenal cortex of the guinea-pig also, the stability of this tissue is only relative, so that a grave risk would be run by neglecting the preliminary unilateral extirpation.

WM. H. WOGLOM


Also in Strasbourg méd. 90: 35–37, 1936, and Presse méd. 44: 561–563, 1936.

This reaction, the appearance of changes in the rabbit's adrenal following the injection of urine from patients with malignant disease, has been tried in 125 patients. As the test was repeated in some instances, the total number of trials was 162, but 34 had to be discarded for such reasons as uncertainty in diagnosis, sickness or death of the rabbit, etc. The remaining 128 tests relate to 35 patients with malignant disease, 88 with other disorders, acute or chronic, and 5 who had been operated on for a malignant new growth and showed no sign of recurrence.

Of the 35 with carcinoma or sarcoma, 30 (85.5 per cent) gave a positive and 5 a definitely or doubtfully negative reaction. Among 88 patients without cancer, 78 responded negatively and 10 positively or with a doubtful reaction. Four of the 5 apparently cured patients gave a negative and 1 a doubtfully negative reaction. Thus the proportion of successes in this group was 78 + 5 = 83, or 89.3 per cent.

In 128 tests there were accordingly 15 definite failures, or 11.7 per cent, while the proportion of correct results was 88.3 per cent. [It is to be noted, however, that 8 doubtful positives are included among the positive and 14 doubtful negatives among the negative reactions.]

The neoplasms borne by these patients included such representative growths as carcinoma of the stomach, esophagus, colon, rectum, breast, etc., sarcoma of the thigh, and lymphosarcoma. Among the excluded cases were 2 patients with very small cancroids of the face, one of whom gave a negative and the other a doubtfully negative response. As the growths were only as large as a pin-head and a pea respectively, the authors do not think that the fallacious result of either test can fairly be included among the errors.

WM. H. WOGLOM


In order to verify the specific action of neoplasms on the hypophysis and the tissues of the "hypophyseal group" [see Cancer, Bruxelles 12: 287, 1935. Abst. in Am. J. Cancer 29: 371, 1937] guinea-pigs were inoculated with adult spleen or embryonal tissues of their species. Neither the hypophysis nor the "hypophyseal tissues" were modified in their coagulating power by this treatment as they are by the presence in the body of the guinea-pig liposarcoma, so that the change induced by this neoplasm is a characteristic one.

Results identical with those recorded for the guinea-pig were found in human patients, and it is concluded that their leukocytes too contain a hypophyseal hormone since they share with the leukocytes and other "hypophyseal tissues" of the guinea-pig the power to retard the coagulation of plasma.

The same inhibiting agent exists in the cerebrospinal fluid, the saliva, and the urine. This substance, secreted by the hypophysis in the presence of malignant disease, is the only product of this gland which will delay coagulation, all its known hormones exerting an accelerating action.

WM. H. WOGLOM
**A Modification of the Fuchs Reaction for the Diagnosis of Cancer**, H. MINIBECK.  

In the Fuchs reaction the presence of an apparently specific ferment is finally shown by a colorimetric determination of ammonia. The method promises much, but it is laborious and, in addition, so extremely delicate as to demand not only special training but special apparatus as well. Furthermore, even Fuchs himself admits that it is still susceptible of improvement.

As further refinements in the determination of residual nitrogen appeared to be out of the question, the author substituted a titration for amino acids. His method, details of which must be sought in the original, gave results that agreed with the clinical diagnosis in 17 patients with, and 23 without, carcinoma. In 6 cases the outcome was indecisive.


When normal serum is examined in a dark field the hemokonia, or blood dust, appears in the form of isolated yellowish glistening points, or discs, with a brownian movement and varying in size from bare visibility up to about 1 µ in diameter. The particles in plasma from citrated blood, on the other hand, are considerably larger, a fact which the author has turned to account in devising a technic which he hopes may be of use in diagnosis.

After the addition of a suitable proportion of N/250 hydrochloric acid to serum from patients with various diseases three types of floccules were observed. All resembled those precipitated from normal serum in that all consisted of particles, but the form and size of these varied with different disease groups. In disorders characterized by benign tissue destruction the smallest corpuscles were found; in the presence of proliferation the size of the particles was greater in proportion to the activity of the process; and the largest dimensions of all were associated with malignant tumors. The assumption that size is in some way related to proliferative activity was strengthened by the observation that, whereas in relatively benign carcinomas such as those of the skin the diameter of the particles lay in the neighborhood of 1 µ, extremely malignant neoplasms like hypernephroma or sarcoma were associated with corpuscles up to 4 µ in diameter. A connection between small size and resorption was suggested by the observation that carcinomas which produced severe symptoms of intoxication from protein absorption were associated not only with the large "carcinoma corpuscles" but also with the small ones that appear during resorption.

The three forms, called by the author the resorptive, proliferative, and carcinomatous types, are described in detail, and statistics are given of their occurrence in serum from 470 patients in whom the diagnosis was certain. In 197 of those who had carcinoma the test failed in 4, of whom one had a cancer of the lip that appeared to be regressing under roentgen therapy while the other 3 had carcinoma of the rectum, the gallbladder and pancreas, and the thyroid respectively.

The results were not nearly so good in non-malignant diseases, a number of which showed bodies of the carcinomatous type. Yet, apart from tuberculosis, many of these disorders were of a kind that not infrequently terminates in cancer, such as indurated ulcers or chronic fibrous cholecystitis, and 2 of the patients did in fact develop carcinoma during the three years over which the investigation extended. As for pulmonary tuberculosis, nearly all the patients with particles resembling the carcinomatous type were examined early in the investigation; those tested later showed uniformly the proliferative variety.

The statistics here given are not to be regarded as definitive in any sense, but merely as suggesting further study of a simple and inexpensive procedure.

The article is illustrated by diagrams, photomicrographs, and schematic figures.

Wm. H. WOGLOM

Three cases treated with the Percy cautery are reported: a fibrosarcoma of the forearm, a cervical polyp, and a mole in the interscapular region. The mole had been excised surgically but had recurred after six months, and reached a size of $9 \times 11$ cm. It was of a reddish blue color but on biopsy was diagnosed as fibrosarcoma. Following cauterization the wound healed but the case was not followed. There are no illustrations. Three references are given.


This is a general discussion of the relation of the anatomical position, histologic structure and the physiological characteristics of malignant tumors to radiation. There are no illustrations.


This is a general article concerning the radiation therapy of inoperable deep-seated abdominal malignant tumors. The case of a forty-three-year-old man in whom an adenocarcinoma of the stomach became resectable after a course of deep roentgen therapy is reported. Photographs, photomicrographs, and roentgenograms are included.


This paper concerns 265 cancer patients treated with 600 kv. roentgen therapy at the California Institute of Technology. The equipment, illustrated by 4 photographs, includes two transformers, each rated at 750 kv. root-mean-square at 30 ma., and a glass tube, 30 feet long, with a gold target. Within the treatment room the tube is surrounded by lead armor through which four portals are cut.

The method of treatment was based on the use of moderately heavy protracted irradiation through multiple portals focused on the tumor-bearing area. Usually 300 r were administered daily per field, but in some instances two portals were irradiated per day with a total dose of 600 r. During the first series of treatments 900 to 1500 r were delivered to each field. A second cycle was given after a rest of four to six weeks with the same dose. Sometimes the x-ray therapy was continued over a period of six to twelve months.

The treatment of cancer of the bladder, prostate, rectum, esophagus, pharynx, and larynx is discussed, with drawings of the fields used. There is no report of clinical results since only a relatively small number of patients have been observed for a full three-year period. However, the authors mention the reactions of the skin and the patient’s general condition. On the whole, a mild to marked erythema was seen after the first series and moderate to deep tanning with desquamation after repeated cycles; occasionally there were vesiculation and subcutaneous edema, especially over pubic and gluteal portals, persisting for a month or longer. There was little discomfort if the general condition of the patient was fairly good prior to treatment. The leukocytes fell to about 50 per cent and lymphocytes to approximately 25 per cent of their initial value. The gross pathological changes were similar to those known to follow radium or roentgen therapy. Microscopic findings usually indicated that the tumor cells had suffered indirectly from pressure necrosis, due to progressive fibrosis, and from starvation because of endarteritis of the terminal arterioles.

The authors believe that heavily filtered roentgen radiation at 600 kv. or at higher potentials offers distinctly better possibilities in the treatment of certain types of deep
seated malignant lesions than irradiation at lower voltages. "The results achieved by its use may be favorably compared to the effects obtained by a 4-gram radium pack."

F. BURGHEIM


This is an extensive review of the literature on the biological and physiological effects of x-rays and gamma rays. There are numerous references to the literature, with a discussion by the author, and photogrpahs, tables, and graphs demonstrate the points that are emphasized. Most of the material is of too technical a nature for abstracting.

CHARLES A. WALTMAN


A series of more than 200 tests shows that the survival rate of Drosophila eggs exposed to measured doses of x-rays is remarkably constant. A curve drawn to fit these data indicates the percentages of survival which result from exposure to doses ranging from 75 to 450 r. Thus from the survival rate the dose may be determined in what are termed "biological roentgens." Within a wide range of wavelengths (1.6-0.05 Å) the biological and physical units are equal. Depth doses measured by this method show that the intensity of radiation at some levels below the surface of the phantom is greater than that indicated by dosimeter readings. This is probably because the dosimeter fails to measure accurately the softest scattered rays. Gamma ray intensity, measured in biological roentgens, is found to be lower than that determined by physical means.

CHARLES Packard


The activity of lipase in tissue extracts is determined by measuring the amounts of hydrolysis of certain esters which are added. These are expressed as percentages of the amount found for phenyl acetate on which lipase is most active. Concentrated extracts of rat and rabbit liver and other organs are not affected by radiation. In dilute solution, however, inactivation of the lipase occurs. Since the enzyme is probably not acted on directly, the difference in reaction may be due to some intermediate substance formed during irradiation. A series of tests showed that such a substance is not hydrogen peroxide, although this is produced. Irradiation of mouse sarcoma 180 in vivo did not cause any significant change in the lipolytic action on the added esters.

CHARLES Packard


The administration of 1500-4200 r in divided doses was followed by diminution or disappearance of the fat in young guinea-pigs. The microscopic changes noted were edema, destruction of the fat cells, replacement fibrosis, and delayed repair. New fat cells began to make their appearance about a month after termination of the exposures, and the animals continued to grow and gain in weight.

In a young girl with lipomatosis of the cheek, 1075 r in eight sittings caused the fat to break down into a serous oily fluid, the evacuation of which by puncture resulted in cure. Thus fatty tissue in a young subject proved to be radiosensitive, and in early life even recurrent lipomas may be arrested. Furthermore, it is known that fat in the abdominal wall and the breast is reduced during radiotherapy, but while such observations as these suggest that this tissue is not entirely radioresistant, the whole matter is actually still in the experimental stage.

WM. H. WOGLOM


In previous papers (see for example, Biochem. J. 30: 1622, 1936. Abst. in Am. J. Cancer 29: 145, 1937) Crabtree has shown that the glycolysis of tumor tissue can be
almost completely checked by $\beta + \gamma$ radiation applied for four hours at low temperature, respiration remaining intact after similar treatment. More recent experiments have shown that increased ammonia formation accompanies this suppression of glycolytic function. This was at first thought to be merely a confirmation of the results of Warburg, Posener and Negelein (Biochem. Ztschr. 152: 309, 1924. See also Warburg: Uber den Stoffwechsel der Tumoren, Berlin, 1926), who showed that tumor and other normally glycolyzing tissues liberate ammonia when deprived of sugar. Subsequently, however, it was observed that this increased ammonia formation was not necessarily coupled with glycolysis but was a characteristic effect of irradiation itself. Under such conditions as irradiation at body temperature aerobically or anaerobically, or in the presence of cyanide, which damages the respiratory system but not glycolysis, there was a large increase in the rate of ammonia formation. Further, if suitable normal tissues with low glycolyzing powers were irradiated, the rate of ammonia formation was increased in all cases, although to varying extents.

Assuming that increased protein degradation is responsible for the augmented ammonia formation, it seems likely that radiation operates primarily by damaging carbohydrate metabolism, and this damage, whether to oxidative or splitting processes, leads to a secondary reaction in which protein is utilized more rapidly than in normal cells, or in isolated tissues preserved in artificial media for periods up to five to six hours.

A. F. Watson


The relative effectiveness of fast neutrons and x-rays, per unit of ionization, was determined for three different biological objects: the Drosophila egg, the wheat seedling, and the fern spore. The neutron-x-ray ratios of effectiveness for the three organisms were found to be, respectively, 2.1, 5.0, and 2.5. The relative susceptibility of various types of cells to neutrons, therefore, may differ greatly from their relative susceptibility to x-rays.

A. F. Watson


Malignant skin lesions up to 3 cm. in diameter are treated by an epidermicidal radium dosage of from seven to ten skin erythemas so as to insure destruction of the tumor with regeneration of the ectodermal and mesodermal tissue layers at the site of the destroyed growth. This is believed to be preferable to a subepidermicidal dose with selective intensity. A stable scar with minimal deformity and better cosmetic results is obtained. Several drawings and a photograph illustrate the article. Benjamin R. Shore

Gray H. Twombly


The authors discuss the benign nevus, the malignant melanoma, and borderline cases, on the basis of their study of 163 pigmented cutaneous growths. These included 70 quiescent nevi, 51 active nevi, 13 borderline cases, and 29 malignant melanomas. The diagnosis "borderline" signifies that a growth is probably benign, but possibly malignant, and hence requires active treatment. It is the authors' practice to consider as potentially malignant every mole, regardless of its position, size, shape, or color, which shows such signs of activity as itching, pain, inflammation, or increase in size, or which has been the object of repeated trauma. These growths are widely excised and if
ABSTRACTS

histologic study shows aggressive changes the patient is given postoperative x-ray or radium therapy. Several photomicrographs illustrate the article.

Benjamin R. Shore


Seventy-five per cent of patients operated on for melanotic tumors die within a half-year, and only 1 or 2 per cent live more than sixteen months. Radiotherapy, on the other hand, may save 80 or 85 per cent. The author, whose technic is well known in France, administers from 3500 to 3800 r of unfiltered radiation at one sitting to the tumor itself and a similar dose to the lymph nodes after these have been laid bare by an incision through the skin, the latter retracted, and the nodes covered with moist gauze. In the case of large growths two treatments may be given.

During fifteen years' experience the proportion of cures has run as high as 98–99 per cent in the ordinary cutaneous carcinomata. The nevus tumors are more refractory, however, and 15–20 per cent resist treatment. Since the author considers biopsies dangerous, there may be a certain number of non-malignant moles included in his material.

The article is not illustrated.


The author reports 15 cases of solitary cutaneous and subcutaneous leiomyoma. These tumors are composed chiefly of smooth muscle, and may be vascular or non-vascular. No neurites could be discovered in the tumors, but since these structures have been demonstrated by one observer, the author believes his failure to identify them may have been due to technical errors. Surgical excision is simple and effective.

Numerous photomicrographs are included and a very complete bibliography of solitary and multiple cutaneous and subcutaneous leiomyomata is appended.


The author presents a case of benign cutaneous myomas, a condition described by the French dermatologist Besnier in the past century. The patient was a housewife of forty-five who gave a history of subtotal hysterectomy performed ten years before for a fibromyoma weighing seven kilos. When first seen she had a diffuse involvement of the left shoulder, anterior pectoral region, and antero-lateral surface of the arm, by numerous small, firm, discrete, superficial nodules, pink to copper-colored. These had appeared eight years previously, and had grown slowly, without symptoms and without any increase in numbers.

Histologic examination of an excised nodule revealed a group of unencapsulated smooth muscle fibers. The presence of hair remnants and sebaceous glands within the tumor and the abundance of these elements at the periphery of the lesion suggested a possible origin through neurotrophic disturbance of the erector pilae muscles.

Nine conditions to be considered in the differential diagnosis are presented in tabular form.

There are three excellent clinical photographs and one photomicrograph. No bibliography is given.

Adolph Meltzer


Two cases are reported of multiple glomic tumors in the posterior lateral part of the foot, in the malleolar region. In one of the 2 instances of multiple glomic tumors previously reported the localization was similar. In the second of the author's cases some of the tumors were interosseous. Photomicrographs are included and there is a bibliography.
THE SKIN

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Pressure Defects in Bone Caused by Overlying Glomus Tumors, M. Lüdin. Knochen-
veränderung (Druckusur) durch Tumor des neuromyoarteriellen Glomus, Rönt-
genpraxis 8: 375–376, 1936.

Two cases are reported in which pressure defects of terminal phalanges were caused
by overlying glomus tumors. The author is under the impression that such defects
have not previously been reported from this type of growth. Two roentgenograms and
a drawing illustrate the article.

Lymphoblastoma Cutis. Report of a Case with Autopsy, A. S. Rosenfeld and J. V.

A woman of sixty had a generalized exfoliative dermatitis which had its onset two
years earlier. The only other significant findings were moderate enlargement of the
cervical and left axillary lymph nodes and a persistently high lymphocyte count, on one
occasion reaching 79 per cent. Biopsy of a node confirmed the diagnosis of chronic
lymphatic leukemia, with hyperplasia of lymphoid cells involving both the lymph nodes
and the cutaneous tissue.

Following local applications and intramuscular injections of sodium cacodylate, the
dermatitis disappeared and the enlargement of the nodes subsided. After an interval
of two years there was a recurrence of the exfoliative dermatitis, which was uninfluenced
by sodium cacodylate or roentgen therapy, and enlarged nodes again appeared in the
neck, axillae, and groin.

About two years later flat, purplish-red tumor-like masses appeared in the skin, first
in the groins, then under the breasts, in the popliteal space, about the umbilicus, and
in the gluteal folds. These increased in size and number up to the time of death. Coinc-
cident with the appearance of the skin tumors there was a rise of temperature resembling
the Pel-EBstein type of fever. This subsided after ten days but recurred three months
later and continued during the subsequent course of the disease.

Three weeks before death the white cell count was 13,500 with 42 per cent polymor-
phonuclears, 50 per cent lymphocytes, 1 per cent eosinophils, and 7 per cent lympho-
blasts. From this time the patient failed rapidly, the spleen became greatly enlarged,
and a few days before the end purpuric spots appeared on the face and neck.

At autopsy the spleen was found to weigh 1175 gm. It was adherent to the dia-
aphragm and three large anemic infarcts were present. The liver weighed 1675 gm.
The cervical, axillary, inguinal, iliac, aortic and hepatic lymph nodes were enlarged.
Histologically the skin nodules were composed of closely packed cells resembling lympho-
cytes. The normal structure of the lymph nodes was replaced by a dense accumulation
of similar cells.

The term lymphoblastoma cutis covers four closely related dyscrasias of the skin,
lymph nodes, and blood: Hodgkin’s disease, lymphosarcoma, leukemia, and mycosis
fungoides. The author reviews the literature and reprints a table from Ketron and
Gay (Bull. Johns Hopkins Hosp. 34: 404, 1923) summarizing 6 cases of generalized
lymphadenosis of the skin. Two cases have since been reported (Keim: Arch. Dermat.
& Syph. 10: 579, 1924; and Schmidt: Ibid. 24: 587, 1931).

Photographs and photomicrographs illustrate the report. A bibliography is
appended.

Case of Fibrosarcoma of the Skin with Pulmonary Metastases, G. Sciacchitano.
Sopra un caso di fibro-sarcoma cutaneo con metastasi polmonari, Tumori 9: 427–
438, 1935.

A woman aged forty-four had had a lump removed from the region of the knee
twenty years before. No information is available as to its clinical or histological
characteristics. Three years previously the tumor had recurred locally, and when the
patient presented herself for treatment it formed a large mass involving the upper two
thirds of the thigh. A biopsy showed it to be a fibrosarcoma. Pulmonary metastases
were present. The radiograph of the lung and three excellent photomicrographs con-
firm the author’s opinion. A short bibliography is appended.

A man forty-four years of age had a tumor 15 × 10 × 10 cm. in Scarpa’s triangle on the right thigh. The tumor had grown slowly over a period of eight years, and caused no symptoms. It was removed at operation and microscopically was a cavernous hemangioma containing a large amount of fat tissue. The patient made an uneventful recovery. Two photographs and two photomicrographs are included.

Edward Herbert, Jr.


Record is made of a patient with an extensive pigmented lesion involving the posterior surface of the neck. The lesion consisted of multiple, polygonal, chocolate-colored papules, 4 to 5 mm. in diameter, distributed in the form of a mosaic. Although the central papules were closely placed, those at the periphery were separated by wide spaces of normal skin, giving a reticulate form to the lesion. The microscopic features and differential diagnosis are discussed in detail.

Two photographs are reproduced.

Adolph Meltzer

THE EYE


In a child of three years enucleation of the left eye for a glioma of the retina was followed by a massive recurrence at the end of a month. A secondary exenteration of the orbit was not done because at the enucleation it was obvious that the tumor had invaded the optic nerve beyond the point of resection. Three other cases are mentioned in children between twenty-two months and three years of age, each of whom had survived two years or more following treatment by other surgeons, though two of them had required secondary enucleation of the other eye. The author pleads for more thorough ophthalmoscopic examination of infants by the general practitioner and pediatrician and the prompt reference of the patient to an ophthalmologist if even a gray spot is seen on the retina.

Theodore P. Eberhard


The author has used roentgen rays in the treatment of a variety of diseases of the eye. He mentions one patient who over a period of fifteen months received a total of 3000 r and says that he has used a similar dosage in many eye cases without damage to the normal structures. His series includes about 40 cases of epithelioma of the lids. In these a silver plate curved to fit the eye is slipped beneath the lid to protect the conjunctiva. Five cases of epithelioma originating on the anterior surface of the eye, one of hemangioma, 3 of sarcoma, and one of lymphosarcoma are mentioned. In none had the follow-up reached five years.

Charles A. Waltman

THE BREAST


A study of the family histories of 201 patients with cancer of the breast showed the disease to be more frequent in all categories of female relatives of the patients than in the control population. In the mothers of patients the frequency was 18 times that in mothers of similar age in a control group. The author concludes, therefore, that hereditary factors play a definite rôle in predisposition to mammary cancer. His observations
indicate also that predisposition to cancer of the breast is in some way connected with predisposition to cancer in general. A hypothesis of monohybrid recessive inheritance of cancer of the breast is rejected.

The paper is illustrated by 9 family trees and has a bibliography.


The author records several cases in which assays of tumor tissue removed from fibro-adenomatous and cystic breasts showed the presence of estrin. One of these cases was previously reported (J. A. M. A. 103: 1212, 1934) and is abstracted with comment in this journal (Am. J. Cancer 22: 931, 1934). In one case prolan was also present in the breast.

Assay of the urine in a case of gynecomastia associated with teratoma testis showed 40,000 mouse units of a prolan-A-like substance with a fall to 12,000 units following removal of the testicle and irradiation. A positive assay was also obtained on the urine of a child with hypertrophy of the breast. In another patient, with gynecomastia, the blood showed 100 mouse units per liter.


The author reports two cases of breast tumors in children. The first was a lipoma observed in a four-and-a-half-year-old boy, while the second was a lymphosarcoma involving both breasts of a fifteen-year-old girl. A unilateral radical mastectomy was performed in the second case with a fatal outcome. Photographs and photomicrographs illustrate the report.


The author repeatedly observed that after irradiation for skin metastases of mammary carcinoma, x-ray dermatitis was accompanied or followed by the development of new nodules. He finds the explanation of this in the use of a dose too small to destroy all the cancer cells but large enough to produce a skin reaction. Thus irritation results and at the same time the resistance of the irradiated part is diminished. To avoid this the following method of postoperative irradiation in mammary carcinoma is recommended.

The first series, beginning about the tenth day after operation, includes six to eight sittings with intervals of twenty-four hours. Each dose is 150 r at a rate of 5 to 10 r/min., 80 to 100 kv, 1 mm. Al filter. With this soft radiation damage to the lungs is avoided and injury to the cutis and subcutis is less. The total dose is 900 to 1200 r. Such series are repeated every five weeks, so that 5400 to 7200 r have been applied by the sixth month. Subsequently treatment is given at intervals of three, six, and finally twelve months. The only skin alteration resulting after irradiation by this technic is a pigmentation; no erythema is produced.

The author made a special investigation which indicated that, while there is some sensitization of the skin after the treatment, it is not considerable.

Finally, the proposal of Melchart to irradiate the spinal column prophylactically, in order to prevent the frequent and painful metastases, is supported. Five photographs are included.


A woman eighty years old had a tumor of the right breast first noticed a year earlier. It measured 12 cm. or more in diameter, and was associated with edema and orange peel skin in the lower half of the breast. A small ulceration was present at the upper border of the nipple. No nodes were palpable in the axilla, and no discharge could be forced from the nipple. A simple mastectomy with primary closure was done. Histologically the tumor was made up of acini which varied from fairly undifferentiated forms
to almost normal looking sebaceous glands. The diagnosis was sudoriparous-gland carcinoma. Myo-epithelial cells were observed in the tumor. There are no illustrations.

**Theodore P. Eberhard**


This is a pathological report of a case of sarcoma of the breast in a woman of seventy-seven who presumably died from other causes. A mass 7 cm. or more in diameter about the left nipple was found, on section, to consist of adipose tissue, with areas of myxomatous degeneration, which in turn showed areas of small round-cell sarcoma. There were no metastases. The author believes the picture is one of a primary lipoma undergoing malignant change. A photograph of the growth illustrates the article.

**Jeannette Munro**


Chronic cystic mastitis arising in bilateral supernumerary axillary breasts is recorded in a twenty-four-year-old woman. The axillary breast tissue was entirely separate from the remaining portion of the mammary glands. Photographs and photomicrographs illustrate the report.

**Benjamin R. Shore**


A case report of a fifty-three-year-old man with cancer of the breast. The diagnosis was made following removal of the tumor and a Halsted operation was performed. No follow-up is reported. There are no photographs and there is no bibliography.

**Charles A. Waltman**

**The Thyroid Gland**


This study of cancer of the thyroid is based upon a rather complete review of recent medical literature and upon 33 cases observed at the Liége Anti-Cancer Center between 1925 and 1935. These 33 cases of cancer occurred among a total of 4100 cases of thyroid disease seen during this ten-year period, a frequency, therefore, of 8 per cent. Metastases were present in 12 of these cases, involving tracheobronchial nodes in 3 cases, bones in 4 cases, lungs in 6 cases, and liver, endocardium, and brain each in one instance. Histological examination of the tumor was possible in only 18 of the cases, so that the pathological data presented in the study are too meager to be of great value.

The clinical aspects of the cases are presented in tabular form. As in other reports of treatment of thyroid cancer where the follow-up is good, the results of treatment are bad. Only 2 of the 35 patients remain alive, four and five years, respectively, after treatment. One was treated by partial thyroidectomy alone, and the other by repeated surgical excision (six excisions over a period of sixteen years) and 3600 r units of roentgen rays [other details of radiation not stated]. All of the other patients are dead. Only 9 of them lived longer than one year after treatment was begun. Various types of combinations of surgery, x-rays and radium were tried, and it is clear from the case histories that the radiation dosage used was reasonably large.

Desaive concludes that the prevention of the disease by the systematic removal of all goiters is the best way of combatting it. If cancer is discovered at operation on a supposedly simple goiter, or when it is examined histologically, a lobectomy should be done at once. This should be followed by postoperative treatment with radium externally at a distance of from 3 to 10 cm.

When thyroid cancer is so advanced that it can be diagnosed clinically the chances of cure are slight. If the lesion is operable it should be removed, and the operation
followed by x-ray or radium treatment. If doubt exists as to the operability of cancer or the thyroid, or if it is frankly inoperable, only a biopsy should be done, and x-rays or radium given to the limit of tolerance.

An extensive bibliography, fifteen photomicrographs, and several diagrams are included in this careful report.

C. D. Haagensen

**THE UPPER RESPIRATORY TRACT**

**Cancer of the Tongue, N. Petroff.** Le cancer de la langue et son traitement, Toulouse méd. 36: 599–611, 1935.

This report, originating from the Institute of Oncology of Leningrad, covers a period of eight and a half years, during which time 341 patients with cancer of the tongue applied at the clinic for treatment. Of these, only 192 were accepted, the remaining 149 being regarded as incurable. The series included 128 men and 64 women; 116 patients showed local changes such as bad teeth or leukoplakia or had unsatisfactory prostheses. In 111 cases the cancer involved the border of the tongue; in 34 the dorsum of the tongue; in 28 the inferior surface, and in 13 the base of the tongue. In 93 patients the tumor was papillary, and in 99 it was infiltrating. In 31 cases no nodes were palpable, and in 48 node involvement was doubtful. In 15 of the latter group biopsies were performed and 7 were positive. Palpable nodes were present in 71 cases. In 33 of these the nodes were removed and in 31 metastases were found. Thirty-six of the 38 patients from whom the nodes were not removed died of metastases. The author shows that delay in treatment after discovery of the primary lesion increases the incidence of metastases. Twelve patients received no treatment although they were accepted for observation. They lived on an average of twelve and one-half months.

For purposes of treatment the patients were divided clinically into three groups: Group I, 39 cases (20 per cent), no palpable nodes; Group II, 90 cases (47 per cent), nodes palpable but movable; Group III, 63 cases (33 per cent), nodes palpable but fixed. In the treatment of the local lesion the author first implanted bare radon tubes but these were abandoned because of the severe reaction. Later, needles or platinum tubes were favored, and after 1930 the technic of the Radiumhemmet was used: teleradium therapy followed by electrocoagulation or electro-excision with implantation of radon in tubes or needles for a dose of 4 to 7 millicuries destroyed [see Berven: Acta radiol. 13: 213, 1932. Abst. in Am. J. Cancer 19: 440, 1933]. Bilateral ligation of the external carotid artery between the superior thyroid and the lingual arteries is advocated.

The treatment of the nodes in the neck is surgical. There is no indication that external or interstitial irradiation was employed. Radical neck dissection was performed in 32 cases with 6 postoperative deaths.

In reporting the results of treatment the author uses only those cases that were followed for a period of two and one-half to eight and one-half years. He thus reports on 116 cases as follows:

Group I—22 treated—17 cures (77 %)
Group II—63 treated—16 cures (25.3 %)
Group III—31 treated—no cures

He states, however, that out of 236 cases that were followed for a period of two and one-half to eight and one-half years there were 31 or 13 per cent cured for a period of at least three years. Actually, the number of three-year cures was 9 per cent based on the total number of cases seen, which was 341. There are no pathological reports. There are no illustrations and no bibliography is given.

Charles A. Waltman

**Lymphangioma of the Tongue with Extension to the Chin, C. Julliard.** Lymphangiome verruqueux de la langue propagé au menton, Rev. méd. de la Suisse Rom. 55: 141–144, 1935.

A patient of thirty-two years who had had an irregularity on the border of the tongue from infancy was seen after the lesion had extended to the dorsum and inferior aspect,
to the floor of the mouth, and the chin. A biopsy confirmed the clinical diagnosis of lymphangioma. No treatment was given. Three photographs of the patient are reproduced, but no photomicrographs. **Charles A. Waltman**


The forty-five-year-old patient gave the following history. Following extraction of a loose left upper second molar a sinus persisted. Repeated curettage by a dentist one year later was of no help. Three months after this procedure a progressively growing tumor appeared in the mid-portion of the left hard palate. The patient was seen by the authors a month later, at which time x-rays revealed a loss of bone in the involved area. Biopsy of the sinus tract showed squamous carcinoma.

The left external carotid artery was ligated and two days later the maxilla was resected in segments, surgical diathermy being employed. Avertin anesthesia was supplemented by local infiltration. Postoperatively the patient was given protracted deep therapy. At the time of the report the large operative cavity had completely epithelialized and a prosthesis was being planned. **Adolph Meltzer**


A case of ivory osteoma involving the alveolar border of the right upper jaw is described. The lesion was diagnosed clinically on the basis of its slow growth, lack of symptoms, extreme hardness, and uniform opacity to x-rays. Excision of the tumor confirmed the diagnosis.

The report is illustrated by a preoperative roentgenogram, a postoperative photograph, and gross and microscopic photographs of the excised tumor. **Adolph Meltzer**


The author attributes the origin of epulis and giant-cell tumors of the maxillae to blood dyscrasias caused by intoxications, pregnancy, the menopause, endocrine disturbances, arteriosclerosis, syphilis, tuberculosis, liver disorders, etc., to which is added a local cause such as trauma, infection, or both. Treatment should therefore be both medical and surgical.

Five cases of epulis and five cases of giant-cell tumor of the lower jaw are described. The blood changes were usually manifested by anemia or alterations in the bleeding or clotting time. Eight photographs and two references are included. **Charles A. Waltman**


A thirty-nine-year-old man had a small tumor of the nasal vestibule recurrent after four excisions within the past three years. The last removal had been moderately radical. Despite its tendency to recur, the tumor proved microscopically to be a very vascular, benign papilloma with stratified squamous epithelium and hyperplastic connective tissue. Two photomicrographs are included and a short bibliography is given. **Adolph Meltzer**


A man fifty years of age had a tumor which had been growing slowly for about six years and measured some 6.5 × 5 × 4.5 cm., completely filling the retropharyngeal space. Horner's syndrome, so frequently seen in tumors of the pharynx, was not present. At autopsy a number of large cavities filled with pus were found, though
during life they were presumably filled with blood, as was shown by arteriography and exploratory punctures. No metastases were discovered. The authors think that the tumor may have been derived from the superior sympathetic ganglion. Two roentgenograms, three gross photographs, and three histologic drawings illustrate the report. There seems to be no question that this was a cystic neurinoma.


An endothelioma extensively involving the left nasal fossa, left antrum, left frontal, and left ethmoidal sinuses was removed from a man of forty-four. He had remained well for over twelve years after operation.


An ossifying fibroma of the maxillary sinus in a boy of eleven was diagnosed originally as osteosarcoma and was therefore treated by large doses of radiation, application of a radium plaque being followed by x-ray therapy. Ten years later there was no evidence of recurrence. Photographs and one photomicrograph illustrate the report.


This is a general article, unillustrated, concerning the benign and malignant tumors of the larynx.


Roentgen study of the soft tissues of the neck is deserving of more constant use and its possibilities should be more widely recognized as a valuable and useful adjunct to other methods of examination. Practically all of the pathological conditions common to the larynx and pharynx show some recognizable abnormalities on the x-ray film. A short description of the characteristic changes of various inflammatory and neoplastic lesions is included. Several roentgenograms illustrate the article.


The author recommends combining surgery and irradiation in the treatment of malignant neoplasms of the larynx. Conservative laryngectomy is performed with the radio-knife, or the growth is destroyed by direct electrocoagulation through a laryngeal fissure where the former is not possible. After the wound heals the patient receives a protracted course of irradiation—200–300 r per day over a period of fifteen to forty-five days, giving a total of 3000–9000 r to the lesion.

The effects of x-ray therapy are discussed. The reaction of the mucous membrane of the pharynx is recommended as the guide to dosage, rather than any prearranged total dose. The complications are enumerated. Five cases with survival for three or more years are presented in outline form with details of the therapy in each. There is no bibliography.


Twelve cases of inoperable endolaryngeal carcinoma proved by biopsy and histologic examination are described in detail. They were irradiated by Coutard's method, 185 to 200 kv., 3 ma., 50 to 60 cm. focus-skin distance, filtration 1 mm. zinc and 2 mm. aluminum. Two fields were employed, each 45 to 60 sq. cm. The total surface dose was 5000 to 9000 r in 15 to 30 sittings, lasting twenty to thirty hours, over eighteen
to thirty days. The field nearer to the lesion received almost twice the dose of the other. Two patients received additional surface radium treatment, consisting of 3 millicuries destroyed, field 2 sq. cm., 4 cm. distance, 1 to 1.5 mm. platinum-iridium and aluminum filtration, for eleven to fifteen days without interruption.

The results are regarded as encouraging inasmuch as all the cases were inoperable and some had been irradiated previously without success. Six of the twelve patients are living without recurrence or metastasis, the intervals since treatment being respectively nine years, six and a half years, five years and four months, three years, two years and ten months, and thirteen months. The author believes that radiotherapy should be used even in operable cases.

The results of others are reviewed, and a comprehensive bibliography is appended.

F. Burgheim

INTRATHORACIC TUMORS


Roentgen study is of prime importance in the diagnosis of mediastinal tumors, but for the correct determination of the nature of the lesion there must be correlation of the clinical features, laboratory studies, and roentgen findings. The response of a tumor to a test dose of irradiation is of valuable supplemental aid.

Benjamin R. Shore


This is a general article concerning the diagnosis and treatment of benign and malignant tumors of the trachea. Characteristic symptoms are wheezing respiration, nocturnal attacks of dyspnea, dyspnea on exertion, and asphyxia. The final diagnosis must be made in all cases by bronchoscopic examination. There are no illustrations.

Benjamin R. Shore


The radiographic findings are described for 13 cases of primary carcinoma of the lung, in 8 of which the diagnosis was made clinically, chiefly through the x-ray evidence. The x-ray films for 7 of the cases are reproduced. The author points out that although the x-ray picture of carcinoma of the lung may not be characteristic it is often highly suggestive. It is the most valuable of all the clinical means of diagnosing the disease and deserves more confidence.

C. D. Haagensen


The author reports 12 cases of cancer of the lung discovered among workmen tending furnaces used for the production of gas in a steel plant. The patients were from thirty-eight to forty-five years old, with the exception of one man of sixty-five, who had been engaged in this occupation for more than twenty-three years and who first showed evidence of disease ten years after his retirement. As for the others, the interval between entering the industry and the time of the appearance of cancer ranged from nine to twenty-three years.

A qualitative analysis of the gas produced by the furnace and inhaled by the workmen proved that it contained several high-temperature distillates of tar, the effect of which in causing cancer is well known. Further investigations should show whether this inhalation is the most important cause of cancer in these cases or whether other factors play a rôle. Preventive measures are already being employed, such as attempts to minimize the amount of escaping gas, the use of masks, and periodical medical examinations.

Two patients are recorded as having carcinoma of the lung, but there was no autopsy in either and no microscopic proof of the presence of cancer.

A third patient, a man sixty-two years old, complained of vague digestive disturbances and a right "pleuro-pulmonary episode." A barium meal revealed a filling defect in the antrum of the stomach, and chest films showed fine stippling of both lung fields. This patient died seven months later with cerebral metastases.

There is a short and not too clear discussion of the difficulties of roentgen diagnosis of these cases. Three excellent reproductions of x-ray films are included, and a few references.

Theodore P. Eberhard


Poppi describes the autopsy findings in a case of massive carcinoma of the stomach with metastases to the omentum, perigastric lymph nodes, mesentery, peritoneum, pleura, hilar lymph nodes, and lung. In the lungs the lymphatics were choked with tumor emboli throughout. A colored histologic drawing and a bibliography are included.

C. D. Haagen sen


The authors present 5 cases of nodular masses in the lungs of the type known variously as chondroma, hamartoma and adenoma. They are generally small, often multiple, usually partially encapsulated, are as a rule found only at autopsy, and are composed of several types of tissue. One or more of these tissues may predominate, giving the lesion an epithelial, cartilaginous, myomatous, myxomatous, or osteoid appearance, or the impression may be that of a mixed tumor. Twenty-four other cases from the literature are mentioned.

Some workers regard these masses as benign tumors of mixed tissue origin and have established a nomenclature culminating in such names as myxo-fibro-lipo-osteoadeno-chondroma. Another school believes them to be embryonal rests or developmental malformations and apply the term hamartoma. This position was recently upheld by Jaeger (Ann. d'anat. path. 12: 811, 1935. Abst. in Am. J. Cancer 28: 434, 1936).

A third group, headed by Chiari and more recently by Hammer, believes that they are not tumors at all but simply inflammatory lesions. The authors, without denying the benign tumor or malformation theories, point out the fact that the masses are generally found near bronchi, that they contain only elements found in normal pulmonary structures, and that these elements occur in intimate confusion and with many accompanying signs of inflammation. The names and opinions of many writers are included, but no full references are given. Photomicrographs from the five cases described are reproduced.

Theodore P. Eberhard


The clinical course and autopsy findings in a case of extensive left pulmonary neoplasm are described.

The symptoms had begun one year prior to admission with loss of weight and weakness. Eight months later the patient first experienced pain in the back. A few days after a small hemoptysis he came to the hospital, where examination revealed slight jaundice, a bulging left hemithorax with signs suggesting a massive effusion displacing the mediastinum to the right, a distended tender abdomen with a large mass interpreted as the liver, and a slight generalized lymphadenopathy. There was no cough or expectoration and only slight tachypnea.
Thoracentesis was attempted but revealed only a thickened pleura without fluid. The roentgenologist reported a dense shadow extending up to the first rib, displacing the mediastinum to the right, probably sarcoma. Meanwhile, the patient grew rapidly cachectic, the jaundice and ascites became more severe, and the abdominal mass enlarged. Hemoptyses became frequent, and signs of vertebral involvement appeared. Death occurred two months after admission.

Autopsy revealed a large tumor replacing the entire left lung with the exception of the superior lobule. The neoplasm caused inversion of the diaphragm, displacing the pancreas downward. The liver showed marked yellow atrophy. Ascites was due to compression of the inferior vena cava. No microscopic studies are reported.

The author recapitulates the two chief features of interest: a minimum of pulmonary symptoms despite a lung tumor of great size; the marked abdominal symptomatology produced by an intrathoracic neoplasm.

Two roentgenograms are included.


The case is reported of a woman who presented a Horner’s syndrome and a left hydrothorax. She was in extremis when first seen and died shortly afterwards. Autopsy showed a large nodular tumor filling most of the left chest, with metastases to the liver and pancreas. Microscopically the tumor was a fibrosarcoma, presumably primary in the lung or subpleural tissues. Five photographs and six photomicrographs are included.

**Primary Tumor of the Lung with Thrombosis of the Superior Vena Cava, A. Fabris. Tumore primitivo del polmone con trombosi neoplastica della cava superiore fino all’ orecchietta, Policlinico (sez. prat.) 42: 607–613, 1935.**

A man of seventy-seven who had for some time suffered from mild dyspnea had a suddenly developing edema of the backs of the hands, which spread rapidly to involve the arms, neck, and torso. He complained, also, of cyanosis of the face, cough with scanty non-hemorrhagic expectoration, and increasing dyspnea. One month after the onset of the edema the abdomen and legs were found to be pale and shrunken; two large veins were visible along the sides of the trunk running from the inguinal regions to the axillae; other smaller veins were seen toward the median line of the abdomen and in the region of the ensiform cartilage. Signs of fluid were apparent at the right base. X-ray examination showed a non-pulsating mass in the posterior and right mediastinum. After hospitalization the edema diminished and the cyanosis became less while the patient was at rest, though the slightest movement brought on intense dyspnea and cyanosis. Cough became very troublesome. Blood, but no tumor cells, appeared in the sputum. Autopsy disclosed carcinoma of bronchial origin with extension to the mediastinum and neoplastic thrombosis of the superior vena cava with compression of the mouth of the azygos.

**Carcinoma of the Pleura, V. Audibert, F. Aviérisos and S. Farnarier. Cancer primitif de la plèvre, Arch. méd.-chir. de l’app. respir. 10: 221–234, 1935.**

A man thirty-one years old entered the hospital with right-sided pleurisy with effusion of eight months’ duration. After thoracentesis and transfusions he was able to return to work. Ten months after his first admission he was seized suddenly with agonizing pain in the right chest, shoulder, and abdomen. A phrenicectomy relieved him for a short time, but three months later the tumor penetrated the chest wall anteriorly and death ensued shortly afterwards. Autopsy revealed a nodular tumor 25 mm. in thickness, occupying both the visceral and parietal pleura on the right side. It was white, hard, and granular on cut section. Histologically, three types of tissue were identified: a fibroblastic sarcomatous tissue; a trabeculated and lacunar type made up of epithelioid cells with basophilic cytoplasm and nuclei with acidophilic nucleoli; a reticular type with endothelial cells resembling those seen in some reticulum-cell sarcomas. There were no metastases.
The disease is described as one of extremely slow course, with absence of early signs, and extreme pain late in the disease. Histogenesis is discussed, and the authors conclude that the evidence is heavily in favor of a mesenchymal origin.

There are two gross photographs of the autopsy specimen.

THE DIGESTIVE TRACT

**Theodore P. Eberhard**

THE DIAPHRAGM


The case recorded here was reported in 1931 as a hydatid cyst of the lung. During the succeeding four years the tumor has not changed in size and further x-ray studies following pneumothorax and pneumoperitoneum have shown conclusively that it arises from the diaphragm. No operation or biopsy was performed. Five roentgenograms and eleven references are included.

**Edward Herbert, Jr.**

**THE DIGESTIVE TRACT**


In a series of 100 patients with carcinomas of the esophagus, the chief symptoms were as follows: dysphagia in 91, impaction of a foreign body in 2, pain in 4, and hoarseness, hiccough, and the presence of nodes in the neck in a single case each. Operation was attempted in one case but the tumor was found to be too diffuse for removal. Severe cachexia and exhaustion were shown by 5 patients on their admission to the hospital and no treatment was possible. In 65 cases x-ray examination and esophagoscopy revealed so extensive a local lesion that palliative treatment alone was considered to be feasible. In 29 cases evidence of spread of the growth was present at the time of the first treatment or thereafter.

The course of carcinoma of the esophagus can be divided clinically into three phases: (1) the latent period, which is symptomless and of unknown duration; (2) the "symptom" period, which is the time lost between the occurrence of the earliest symptoms and the date of a definite diagnosis, averaging 5.7 months; (3) the "manifest" period, from the date of diagnosis until death, averaging 5.14 months. If patients with this disease are to be cured they must be seen and their condition diagnosed in the earlier phases.

**Benjamin R. Shore**


The following nervous syndromes may be associated with carcinoma of the esophagus: sialorrhea; pain, either on deglutition or referred along the vagus, phrenic, intercostal, or sympathetic nerves; tachycardia or bradycardia; laryngeal paralyses; the Bernard-Horner syndrome. Three illustrative cases are presented in which dysphagia and nervous symptoms were due to pressure upon or invasion of the nerves of the lower neck and thorax. Two photomicrographs are included.

**Theodore P. Eberhard**


This is a general discussion of the roentgen diagnosis of esophageal and gastric cancers, illustrated with roentgenograms.

**Benjamin R. Shore**


This is an excellent discussion of the palliative methods of treating patients with carcinoma of the esophagus, such as gastrostomy, dilatation, intubation, radiation,
Electrocoagulation and medical care, by one who is recognized as an authority on the subject.

Complete descriptions of the technic for the operative removal of carcinomas situated in the (1) cervical portion, (2) thoracic portion, and (3) lower portion of the esophagus are given. The author is one of the few who can point to cures by surgery in this most difficult field. The article is well illustrated with photographs and drawings. A bibliography is also given.


The author reports 72 cases of esophageal tumor treated during 1934 and 1935 by radium. For distance irradiation a 2.5 gram radium bomb was used, applied at a distance of 6 cm. Filtration was equivalent to 3 mm. lead. The surface intensity under the conditions was 227 r per hour. The method most frequently employed was intra-cavity irradiation. For this from two to four tubes were used containing 10 to 20 mg. of radium element, having 2 cm. active length and 1.4 mm. of platinum-iridium filter. These were contained in brass tubes encased in hard rubber. The application was made at intervals of one or two days for a period of two or three hours.

The following complications were observed as the result of radium application: perforation in 7 cases; hemorrhage in 6 cases, with 2 deaths due directly to this cause; left recurrent paralysis in 3 cases. In 6 cases there were supraclavicular metastases, 5 of these being on the right. Abdominal metastases from carcinoma of the middle third of the esophagus were observed in 3 cases.

There were 24 deaths in nineteen months. In most cases stenosis was postponed as the result of irradiation, in one case for more than a year. The article is illustrated by 3 isodose curves, a photograph of the radium container, and roentgenogram.

Since the period of observation in this series was less than two years and many of the cases are still under observation, the report is to be regarded only as a preliminary one, as the author states.


The symptoms of carcinoma of the stomach outlined in text-books and taught to students are those of advanced and incurable lesions. It may be possible to find early gastric cancers by regarding every case of continuous gastric disturbance as potentially malignant until proved otherwise.


In a series of 63 patients in whom the clinical and roentgen diagnosis of benign gastric ulcer was made, operation disclosed 2 carcinomas, a lymphosarcoma, and 59 benign ulcers; the remaining case was probably syphilis and was not operated upon. Whether the malignant changes were primary or secondary to the ulcers is not discussed.


This is a general discussion of the subject of gastric carcinoma. It was read in connection with a cancer symposium and contains no new material and no illustrations.


This is a general discussion of the surgical technic employed in operations for cancer of the stomach. It is based on previously published articles by the author, to which references are included. There are no illustrations.

The author operated in 52 cases of gastric cancer and 8 cases of intestinal cancer, removing the tumor with the contiguous normal epithelial tissues. Histologic study of the mucous membrane surrounding the cancer tissue showed so-called coincidental proliferation in 58 instances. The two exceptions were a glandular-cell and a cylindrical-cell cancer of the stomach.

K. SUGIURA


The clinical aspects of gastric carcinoma are discussed and more frequent fluoroscopy of the stomach is advised. Seven cases of stomach lesions are reported, with roentgenograms. One case with a Polya anastomosis and resection of the stomach for carcinoma had been observed for four years. No five-year cures are reported.

CHARLES A. WALTMAN

Gastric Spasm and Carcinoma of the Stomach, C. TAMIYA. Magenkarzinom und Gastrospasms, Radiol. Rund. 5: 89–93, 1936.

The author stresses the fact that gastric spasm is a frequent accompaniment of carcinoma of the stomach, and that its recognition is of importance in the roentgen diagnosis of this condition. Roentgenograms and drawings illustrate the article.

BENJAMIN R. SHORE


This is a general discussion of the difficulty of determining the operability of a gastric cancer from the history, physical signs, or roentgenograms. In all doubtful cases in which no definite contraindication to operation exists, exploratory laparotomy is indicated.

BENJAMIN R. SHORE


This is a general discussion of the diagnosis and treatment of carcinoma of the stomach. The fact that only 25 per cent of such growths are operable illustrates the necessity of early diagnosis, especially attention to vague and indefinite gastric symptoms. Radical resection of carcinoma of the stomach carries a 20 to 35 per cent mortality and gives from 20 to 40 per cent five-year cures.

BENJAMIN R. SHORE


This article is a report on 10 gastric resections performed by the Billroth I or Billroth II technic. No five-year cures of carcinoma of the stomach are reported. The author believes in the test of medical treatment to differentiate between benign and malignant ulcerative conditions. There are no photographs. A short bibliography is added.

CHARLES A. WALTMAN


There is some evidence that the same factors which lead to the clinical picture of pernicious anemia may by their continued action over a long period give rise to a cancerous change in the gastric mucosa.

A case is described in a man aged fifty-seven, who was under treatment for six years for pernicious anemia and who finally developed a carcinoma of the stomach. The greater part of the stomach wall was infiltrated with a fungating and partially ulcerated growth and the liver was riddled with massive secondary deposits. It is pointed out
that the association of the two diseases may have been due (1) simply to coincidence, (2) to an increase in pH due to achlorhydria, acting over a long period, which produces changes in the gastric mucosa leading to pernicious anemia, and subsequently permits some carcinogenic agent formed in the body to produce its effect, or (3) to the chronic inflammatory change observed in association with the pre-existing pernicious anemia leading to a cancerous transformation of the mucosa. More information as to the incidence of this association will be required before any definite conclusion can be reached.

There is a good list of references to original papers describing the association of pernicious anemia and malignant disease of the stomach. 

A. F. Watson


A man of fifty-six complained of dyspnea but had no gastro-intestinal symptoms. Roentgenograms showed infiltration of both lungs and an unusual type of tuberculosis was considered. There was no anemia. A barium study of the stomach showed a suggestive area of infiltration, but the patient was too ill for a second examination. The autopsy showed carcinoma of the stomach with miliary metastases in the lungs. The regional lymph nodes were also involved. There is a bibliography and there are seven photographs of the lesions. 

Charles A. Waltman


A man fifty-six years old was admitted because of anorexia, nausea, and progressive loss of weight of four months’ duration, occasional vomiting without blood for five weeks, jaundice and clay-colored stools for ten days, and continuous vomiting for four days. Physical examination revealed a large spleen and palpable liver edge. Passage of a stomach tube was followed by the appearance of bright red blood. The gastric contents showed no free acid. The stools were positive for occult blood. An x-ray examination showed a small filling defect directly above the cardia and elevation of the left dome of the diaphragm. An exploratory celiotomy was done and a large tumor was found involving the upper half of the spleen, adherent to the stomach, invading the tail of the pancreas, and involving several lymph nodes above the stomach. A biopsy of one of these was interpreted as sarcoma. Postoperative roentgen therapy was given, 5950 r [factors not stated], and the patient left the hospital six weeks later in good condition. Six weeks after this he returned with an intragastric hemorrhage, which proved fatal. At autopsy the mass was found to have extended through the diaphragm into the left lung. In the stomach an opening was found through necrotic tumor tissue into the splenic pulp. Further study of this tissue changed the diagnosis to small-cell carcinoma of the stomach.

There is a sketch of the gross pathology. Two similar cases are quoted from R. A. Willis: The Spread of Tumors in the Human Body, J. and A. Churchill, London, 1934, p. 283. 

Theodore P. Eberhard


A white male Brazilian, fifty-seven-years old, entered the hospital seriously ill with intestinal symptoms. At autopsy a tumor was found on the lesser curvature of the stomach, in the center of which was an ulcerated area 3.5 cm. in diameter. The growth was attached to the pancreas. Extension of the tumor to the esophagus and cardia was not discovered. Metastases were found in the heart, liver, pancreas, lungs, and suprarenal gland. Histologically the primary tumor and the metastatic foci showed carcinoma of the epidermoid type. Eight excellent photomicrographs illustrate the morphology and distribution of the neoplasm. A bibliography is appended.

A man of seventy-two was admitted to the hospital with a history of nearly two weeks of diarrhea and four days of complete obstruction. Laparotomy revealed a complete obstruction of the bowel in the region of the terminal ileum, and many nodules along the small bowel. An enterostomy was done, but the patient succumbed the next day. Autopsy revealed a carcinoma of the pancreas with deposits in the wall of the small intestine and many metastatic nodes in the mesentery.

There are no illustrations. Several references to the literature are given.

THEODORE P. EBERHARD

Unusual Cases of Caecal Carcinoma, L. DOYLE. Australian & New Zealand J. Surg. 6: 75-78, 1936.

A single case is reported, that of a sixty-year-old man with a carcinoma and intussusception in a non-rotated cecum in the left upper quadrant of the abdomen. The patient made a good recovery following resection of the growth. A photograph of the gross specimen, a roentgenogram, and a photomicrograph are included.

BENJAMIN R. SHORE


A case of early carcinoid of the appendix in a thirty-two-year-old man, a primary adenocarcinoma with mucous degeneration of the appendix in a man of sixty, and a colloid carcinoma of the appendix in a woman thirty-eight are reported. No follow up for the first two cases is given; the third patient has remained well for eleven months after appendectomy. Photomicrographs illustrate the article. BENJAMIN R. SHORE


Two cases are reported. The first is that of a man of fifty who presented a rather vague picture of acute appendicitis. A barium enema showed obliteration of the end of the cecum and at operation there was found a marked thickening of the walls of the terminal ileum, cecum, and part of the ascending colon, so that a right hemicolectomy was done. The appendix was found buried in the posterior wall of the cecum in an old abscess and inflammatory thickening of the intestinal wall.

The second patient was a woman forty-seven years old who was seen after ten days of conservative treatment for acute appendicitis. At operation an acutely inflamed appendix and an appendiceal abscess were found. The appendix was not examined histologically. Symptoms persisted and three months later a tumor became palpable in the iliac fossa and occult blood was found in the stools. At exploration a large tumor of the cecum was found, for which a right hemicolectomy was done. Three years after this there was a massive, inoperable recurrence, involving the entire cecum with extension along the right colic artery.

The authors raise the question as to whether it is right to burden the laboratory with all routine appendices and conclude that in a case such as this the appendix would probably not have shown the tumor anyway.

There are no illustrations and no references are made to the literature.

THEODORE P. EBERHARD

Carcinoma of the Colon, D. P. MACGUIRE. M. Record 144: 72-75, 1936.

This is a general discussion of the diagnosis and treatment of carcinoma of the colon. There are no illustrations.

A general review of the physiology of the colon, the types of colonic carcinoma, their symptomatology, and differential diagnosis.

J. Samuel Binkley


After a clinical discussion of carcinoma of the colon, a case is reported of carcinoma of the descending colon that was loosely adherent to the uterus. Clinically the findings simulated a fibroid uterus. A photograph is included.

Charles A. Waltman


Emphasis is laid on taking a good history as an aid in early diagnosis of malignant tumors of the colon. Polypoid tumors and diverticulitis are also discussed in a general way.

Charles A. Waltman


This is a general discussion of the clinical and roentgen diagnosis of carcinoma of the colon. There are no illustrations.

Benjamin R. Shore


Bargen reports the case of a fifty-nine-year-old woman with amebiasis of several years duration who developed carcinoma of the transverse colon. The patient has remained well for five months following resection of the growth. There are no illustrations.

Benjamin R. Shore


Doyle describes a case in which a second carcinoma developed in the scar of a cecostomy four years after resection of a primary sigmoid tumor. At operation the secondary growth was found to involve the cecum and it was not evident whether it was an implant or metastasis from the sigmoid tumor or an entirely new neoplasm. A photograph of each tumor and photomicrographs illustrate the article.

Benjamin R. Shore


This is a general discussion of the surgical treatment of carcinomas of the sigmoid. No cases are reported.

Benjamin R. Shore

Persistent Rectal Bleeding in a Child of Eight Years Due to a Benign Growth of the Sigmoid, A. A. Landsman. M. Record. 144: 188–189, 1936.

A case of persistent bleeding due to a benign lymphogranuloma in an eight-year-old child is reported. The growth was removed with the high-frequency cutting knife with an apparent cure. There are no illustrations.

Benjamin R. Shore


A pericostal-transabdominal incision which parallels the twelfth rib and extends from the lumbar fascia in the back to the sheath of the rectus muscle in front is recommended for exposure of carcinomas involving the splenic and hepatic flexures of the colon. Several drawings and photographs illustrate the operative procedure.

Benjamin R. Shore

Ferguson records a case of familial polyposis of the colon in a thirty-seven-year-old woman. She died forty-five days after ileostomy. Malignant degeneration was found in three of the polyps. A roentgenogram, photograph, and photomicrographs illustrate the report.


Adenomatosis coli and polyposis cystica intestini are two entirely different conditions. Epidemiological, clinical, pathologic, serologic, and bacteriologic studies indicate that polyposis cystica intestini is the chronic stage of acute bacillary dysentery. Adenomatosis coli, on the other hand, is a neoplastic disease prone to multicentric malignancy and unrelated to bacillary dysentery. Photographs of gross specimens illustrate the article.


This is a general discussion concerning benign and malignant tumors of the rectum, especially their relation to one another. Examination with the proctoscope is suggested for all doubtful cases because so many of the tumors cannot be reached on digital examination.


This is a general discussion of the diagnosis and treatment of cancer of the rectum. The time for cure of this disease is while it is in its early stages, and only by conscientious examinations may one discover these early tumors. The article is not illustrated.


This is a general article, unillustrated, concerning the gross pathology and histopathology of carcinomas of the rectum and rectosigmoid.


The great hazard in diagnosis of carcinoma of the rectum and rectosigmoid does not lie in the difficulty of its recognition when it is searched for, but in the tendency to attribute symptoms to some minor rectal or abdominal ailment and to neglect to examine the patient for the presence of a malignant growth.


This is a general discussion of the diagnosis and treatment of cancer of the pelvic colon and rectum, illustrated with roentgenograms and one photograph. The authors believe that the early diagnosis of these lesions depends upon "cancer consciousness" of physicians, since the symptoms are indefinite and often slight. The classic history and symptoms which have been taught belong to the advanced and often hopelessly inoperable tumors.


The so-called Gruskin test for malignancy consists of an intradermal injection of an antigen prepared from the embryonic epithelial cells of the pancreas or liver of a calf. For the diagnosis of connective-tissue tumors the antigen is made from Wharton's jelly. A positive reaction is a wheal with pseudopod-like prolongations appearing in fifteen
ABSTRACTS

minutes. Factors which contribute to failure of the test are cachexia and dehydration, jaundice, inflammatory conditions, high fever, heavy doses of radium or x-ray, and application immediately after operation. In a group of 76 cases of disease of the rectum and colon Gruskin obtained negative results in 16 in which cancer was not present, and positive results in 58 of 60 in which cancer was found either at operation or necropsy. He thus claims a correct diagnosis in 74 out of 76 cases, or 97.3 per cent. While other investigators have not obtained as high percentages as this, practically all are said to have reported correct results in 75 per cent.

There is an extensive review of the literature with a comprehensive bibliography. Two illustrations depict the characteristic appearance of the wheals.

THEODORE S. RAIFORD


This article is not an attempt to analyze a group of cases but is rather a general discussion of the broad principles governing the diagnosis and management of rectal cancer. It is based on a study of 287 cases, but these are not classified or described in detail. Special mention is made of colostomy and its place in the management of the patient.

Palliation was attempted in 78 cases, by colostomy, radium, or roentgen rays, alone or in combination.

Of 35 patients operated upon before 1931, 10 are known to have lived five years or more following first consultation. There is no attempt to evaluate the operative procedures on the basis of cures.

J. SAMUEL BINKLEY


This is a general discussion of the surgical treatment of cancer of the rectum.

BENJAMIN R. SHORE


This is a general article concerning the diagnosis and treatment of cancer of the rectum. Rankin prefers the one-stage combined abdominoperineal resection in suitable cases. Improvement in the results of the surgical treatment of this disease depends upon earlier diagnosis.

BENJAMIN R. SHORE


This is a general review of already published works on the radiation therapy of cancers of the anus and rectum. The combined use of surgery and irradiation is recommended for the best results in this important field.

BENJAMIN R. SHORE


This is a general discussion of the diagnosis and treatment of carcinomas of the rectum, especially the preoperative care. The author is a firm believer in preoperative peritoneal immunization and is of the opinion that it offers protection against unforeseen soiling of the peritoneal cavity. Two illustrative case histories are included.

BENJAMIN R. SHORE


A fifty-three-year-old woman was found to have a malignant melanoma of the rectum, the diagnosis being made by examination of the specimen after operation. All but one of the lymph nodes removed in the perirectal fat contained black pigment which was considered to be phagocytic and not neoplastic. There was no definite histologic
evidence of metastatic involvement of the nodes. Local recurrences which developed soon after the operation were successfully controlled for the time being with radium therapy. A photograph of the gross specimen and several photomicrographs illustrate the article.

Benjamin R. Shore


A case of lipoma of the ischiorectal fossa successfully treated by excision is reported. There are no illustrations.

Benjamin R. Shore

Diagnosis of Carcinoma of the Pancreas, C. A. Sones. J. Iowa M. Soc. 26: 82-84, 1936.

No new method of diagnosis of carcinoma of the pancreas is described. The signs, symptoms and x-ray findings in this disease are mentioned. There is a short bibliography.

Charles A. Waltman


An infant of eleven months had a large polycystic mass attached to the right lobe of the liver. The cyst walls showed a lining of squamous or cuboidal cells, a middle layer with structures resembling bile ducts, and an outer layer of connective tissue with smooth muscle fibers and hemangiomatous and lymphangiomatous formations. The article includes a table setting forth the main points of 160 cases of non-parasitic liver cysts reported in the literature.

Jeannette Munro

That idiopathic cystic dilatation of the common bile-duct is rare is shown by Judd and Greene of the Mayo Clinic, who in 17,381 operations encountered this condition only once (Surg. Gynec. & Obst. 46: 317, 1928). In Japan, Sakuma was the first to mention an example, in 1905, and since then 54 proved cases have been reported, which would indicate that the disease is relatively frequent in that country.

The author has seen three cases. The first patient was a boy of two and a half years with jaundice and a large tumor in the abdomen. The liver was not palpable. The clinical diagnosis was choledochus cyst. Autopsy revealed a large cystic tumor which filled the entire abdominal cavity. The dilated gallbladder was closely adherent to the surface of the cyst. The latter contained 1600 c.c. of greenish, turbid and mucous fluid.

The second patient was a woman of twenty-two years with jaundice. A movable tumor, 4 to 5 cm. in diameter, was found in the right hypochondrium. The tumor enlarged slowly, the patient became emaciated, and successive punctures yielded 3000 c.c. of dark green bilious fluid. Autopsy revealed a cyst 23 × 18 cm. beneath the liver. It contained 5200 c.c. of fluid, and is the largest among the 54 reported Japanese cases.

The third case, reported in an addendum, occurred in a girl of twelve years who complained of jaundice and abdominal swelling. The clinical diagnosis was hepatic tumor and right renal tumor. Autopsy revealed a large cystic mass in the right abdomen beneath the liver; at the right upper margin of this cyst was the gallbladder. When the latter was compressed its contents flowed easily into the cystic mass.

In all these cases, stenosis of the distal portion of the common bile-duct and abnormalities in the course of the pancreatic ducts were observed. Of the 54 patients, 33 were females.

The article is illustrated by four photographs of gross material. A table gives the clinical details of the 54 cases from the Japanese literature. A long bibliography is appended. K. Sugiuara

THE MESENTRY


Following a review of the literature and a general discussion of mesenteric lipomas, a case is reported of a woman thirty-four years of age who complained of generalized abdominal pain, nausea, vomiting, and constipation of eight months' duration. At operation a large lipoma of the mesentery of the small intestine was found and a portion weighing 1000 gm. was removed, further operative interference being deemed unwise at the time. Eleven months later symptoms reappeared and the entire tumor was removed, 30 cm. of small intestine being resected. The mass weighed 4500 gm. and microscopically was a pure lipoma. The patient made a complete recovery. A photograph, a photomicrograph, and sixty references are included. Edward Herbert, Jr.

THE SUPRARENAL GLANDS


A fourteen-year-old girl gave a history of repeated hospital admission for dyspnea, precordial pain, and cardiac palpitation, which had led to a diagnosis of chronic diffuse nephritis with hypertension. Her most recent complaint was attacks of severe coughing aggravated by exertion. The skin of the forearms and legs showed a mottled dusky red spider-web pigmentation and was of a coarse texture. Over both arms and legs there was a universal distribution of short coarse hair. The breasts were small and poorly
developed for the patient's age. Except for occasional fine râles at the base, the lungs were normal. The blood pressure was 190 systolic and 150 diastolic. Roentgenograms showed the transverse diameter of the heart enlarged to 13 cm. An electrocardiogram revealed evidence of severe heart strain due to the hypertension. There was no evidence of kidney dysfunction and the blood findings were normal. Death occurred suddenly from cerebral thrombosis.

At autopsy bilateral paragangliomata of the suprarenal glands were found. The heart showed concentric myocardial hypertrophy of the hypertensive type, and generalized arteriosclerosis was present.

Photomicrographs and a photograph of the suprarenal glands illustrate the report.

**Malignant Tumor of the Suprarenal Medulla, with Consideration of the Frequency of This Kind of Tumor in Children, M. Nakatani.** Nochmals über einen Fall von Sym-pathogoniom, nebstd ein Beitrag zur Statistik desselben, Trans. Soc. path. jap. 25: 749–753, 1935.

A case is recorded of neuroblastoma sympathicum in a boy of seven years and ten months. Previously the author found 8 cases of this rather rare form of tumor in 2282 autopsies (Trans. Soc. path. jap. 24: 581, 1934. Abst. in Am. J. Cancer 26: 841, 1936). This tumor comprises one third of all tumors in children and more than one half of all the abdominal tumors of childhood.


A case is recorded of a suprarenal cortex tumor in a woman of thirty years, with metastases to the regional lymph nodes, liver, diaphragm, pleura, and lung, as well as adenomata of the cortex of the opposite adrenal and basophile cell hyperplasia of the pituitary. The complaints were cessation of menses for five months, forgetfulness, flushing of the face, palpititation, sweating, and marked oiliness of the skin with severe acne. The patient exhibited a full face, anasarca, scleroderma, hirsutism, thickness of speech, and a definitely lowered sugar tolerance. Within a few days she became psychopathic, tried to commit suicide, and died with pulmonary edema. At autopsy a large tumor of the left suprarenal was found, of the so-called glandular type, with metastases to the retroperitoneal tissues, diaphragm, pleura, lungs, and liver. Several small adenomas were present in the opposite suprarenal. The hypophysis showed glandular hyperplasia in the middle portion with colloid-filled acini; the anterior lobe consisted almost entirely of basophilic cells.

A bibliography is included.


This is a detailed account of a delicate boy who had been subject to attacks of tachycardia and vomiting since birth. His blood pressure had always been about 130/70. In 1933, at the age of fifteen, he suddenly became partially blind. Examination revealed albumin in the urine, an albuminuric retinitis, and a hypertension of 270/140; the blood urea was 48 mg. per 100 c.c. He recovered from this attack but six months later became comatose for two days. His blood pressure at this time was 260/140. It fell to 200/120 after treatment with vagotonine, but after seven days had risen again to 300/170. At this time a small tumor was felt in the left renal fossa. Radiotherapy was tried without result. At operation a tumor 4 X 5 X 5 cm. was found above the left kidney, and a biopsy was taken. Histologically the tumor proved to be a paraganglioma of the suprarenal region. The patient died.

The authors believe that suprarenal tumors may be the cause of paroxysmal hypertension and that the hypertension may never fluctuate widely in the later stages but merely be extremely unstable. The renal lesions which are found in the cases of so-
called essential hypertension or of paroxysmal hypertension they regard as the result and not the cause of the elevated blood pressure.

There are no illustrations or references.

THEODORE P. EBERHARD

THE FEMALE GENITAL TRACT


This is a short general discussion stressing the necessity of biopsy in all cases of chronic cervical lesions, and of curettage in all cases of metrorrhagia. There are no illustrations.

EDWARD HERBERT, JR.


The occurrence of lipoid and of glycogen in the uterus parallel each other in relation to the maturity of uterine cancer. However, in differentiated or degenerated growths there was an increase in lipoid but glycogen was decreased.

K. Sugiura


Until only recently the diagnosis of cervical carcinoma has been restricted to growths large enough to elicit symptoms and recognizable by the methods of examination ordinarily available. Many women were saved, but more were lost. The colposcope has changed this, for carcinomas that are not large enough to produce symptoms and are still too small to be disclosed by the usual routine can now be made out in an illuminated and magnified image. By means of this instrument the author and his colleagues are discovering one latent carcinoma for every 125 gynecological patients and now have records of 4000–5000 cervical lesions or, excluding the very smallest ones, about 1800. Some 900 from this latter group have been examined in serial sections, of which 160 were diagnosed as early carcinoma.

[Of the 4 photomicrographs offered in support of the author’s contention only one shows carcinoma, in the opinion of the abstractor. Two look like repair and a third like simple hyperplasia. It will perhaps be remembered that three of the foremost German pathologists examined, a few years ago, 87 slides submitted by Hinselmann as examples of either possible or definite carcinoma and found themselves able to accept his diagnosis for only half the series. They agreed, however, that his material was more difficult than the later lesions to which they were accustomed. See Lonne: München. med. Wchnschr. 81: 1964, 1934. Abst. in Am. J. Cancer 24: 462, 1935.]

WM. H. WOGLOM


The colposcope of Hinselmann and Schiller’s test are considered as important auxiliary methods in the early diagnosis of cancer of the cervix. No original clinical observations are presented.

CHARLES A. WALTMAN

Situation and Extent of Carcinoma of the Uterine Body and Their Significance from the Point of Therapy (Operation or Radiation ?), Robert Schröder. Über Sitz und Ausbreitung der Carcinoma corporis uteri, deren Bedeutung für die Wahl der Therapie (Operation oder Bestrahlung ?), Ztschr. f. Krebsforsch. 44: 187–200, 1936.

The indications for radium therapy in cancer of the corpus uteri are indefinite at the best, since the extent of the process is not easy to determine. Surgery, on the contrary,
reveals the situation at a glance and is so manifestly superior that the author would employ radium only where there is no shadow of doubt that the tumor is inoperable. But even here it is necessary to consider with the greatest caution whether anything of value is really to be expected from radium therapy, and the Coutard method of roentgen irradiation may well be proposed as a substitute, for its effects upon inoperable carcinomas of the cervix have been so gratifying as to encourage the hope that they may be repeated in advanced carcinoma of the corpus. Thus in contrast to its high value in carcinoma of the cervix, the indications for radium therapy in cancer of the corpus uteri are closely restricted.


Operable carcinoma of the corpus uteri should be removed, irradiation being reserved for cases which do not admit of surgical treatment. For these latter cases intravaginal radium therapy with a round pessary having four radioactive foci is recommended. For tumors of the cervix a sound is introduced into the vagina, carrying 2 or 3 10-mg. tubes of radium, filtered by 2 mm. platinum. The average period of irradiation is eleven days (40 or 60 millicuries destroyed). Radium therapy is preceded or followed, either immediately or after an interval of two months, depending on the case, by x-ray irradiation of the pelvis, even in the absence of parametrial infiltration. The author does not approve of vaginal packing with gauze, since this often has an irritating effect. In cases of extensive ulceration, purulent discharge, and fever he has used continuous irrigation with Dakin's solution with good success.


One-hundred and fourteen cases of carcinoma of the cervix have been studied. These included 3 adenocarcinomas and 49 squamous-cell carcinomas of Grade II, 56 squamous-cell carcinomas of Grade III, and 6 squamous-cell carcinomas of Grade IV. All of these cases received preliminary roentgen therapy followed by irradiation with radium. Of the 114 cases, 67, or 59 per cent, showed primary local healing. Of the remaining 47 patients in whom cancer was present microscopically after treatment, 33 were re-irradiated almost at once. Of these, 19 per cent showed local healing. In the 14 cases not receiving re-irradiation it was either refused or was not warranted by the patient's condition.

An interesting observation in this study is the effect of various amounts of radium radiation on the local cancer. Seventy-three patients received more than 4500 mg. hours, with primary cures in 43, or 57 per cent. Forty-one were given less than 4500 mg. hours with 24, or 58 per cent, primary cures. The whole truth is not revealed by these figures, however, as it was found that only 14 per cent of the patients treated with more than 4500 mg. hours had no recurrences in the cervix or vagina, while 45 per cent of those treated with less than this amount had local recurrences. Although comparatively small doses of radium may cause complete clinical and histologic regression of cancer in the cervix and vagina, there will be a local recurrence in almost half of the patients so treated. It must be clearly understood that a primary local cure after irradiation does not necessarily mean that the patient is clinically free of cancer, for about one-third of the patients who had completely healed cervices died of pelvic or distant metastasis without a local recurrence.

Microscopic changes in tumors following external roentgen irradiation were not noted to the same degree as were macroscopic changes. In only about 20 per cent of all patients treated with roentgen rays were there rather marked histologic changes. These consisted of vacuolization, degeneration, and fibrosis. In an additional 30 per cent there were lesser changes demonstrable. It is felt, however, that roentgen therapy given prior to radium application is useful because of the marked retrogression of the tumor, the decrease in the amount of secondary infection, and the greater ease with which the radium can be applied.
There appear to be no marked differences in the responses to radium in the cancers of various histologic grades, so that histologic grading appears to be of little value in the treatment of these tumors. The clinical extent of the disease is of far greater importance in determining the method of treatment and prognosis. Benjamin R. Shore


One-hundred and fifty-six patients with carcinoma of the cervix were seen and 145 treated on the Gynecologic Ward Service of the Jefferson Medical College Hospital between 1921 and 1930. A follow-up was possible in 96.1 per cent of the patients seen and 97.9 per cent of those treated. An absolute rate of curability of 19.2 per cent, a relative rate of curability of 20.5 per cent, and a five-year cure of 25.3 per cent were secured. In the latter group were included all patients who outlived the five-year period, whether they later died of carcinoma or not. These figures are compared with an absolute curability of 14.2 per cent, a relative curability of 15 per cent, and a five-year cure of 20.7 per cent obtained in 63 patients treated between 1921 and 1925 by the same authors. This striking improvement is attributed to the following: (1) increased mg. hours of radium; (2) improved technic of application; (3) constant improvement in the management of the follow-up clinic. Benjamin R. Shore


Two cases of carcinoma of the uterus are reported which were cured by radium and x-rays, but at the expense of serious injury to the bladder. Eighty-two mg. radium were used intracervically in sittings lasting about twelve to fifteen hours, the highest single total dose being 1230 mg. hr. This was repeated several times after intervals of four to eight weeks; sometimes x-ray therapy with massive doses was interposed. One of the two patients first showed bleeding from the bladder twenty-one months after the beginning of treatment; the other, with greater intervals between irradiations, after three years. The symptoms, which were due to edema, vascular changes, ulceration, incrustation, or fistula, impaired the general condition of the patients for a long time after the cancer had been cured. The author therefore stresses the importance of cystoscopic examinations of all patients in whom the genital organs are irradiated. The rectum should be observed, also, as injuries here are still more frequent than to the bladder.

Two photographs are reproduced, and a bibliography is appended. F. Burgheim


Ludwig reports the case of a sixteen-year-old white girl with a history of a dark brown, bloody vaginal discharge of six months' duration. Examination showed a soft, friable tumor arising from the cervix and filling the upper part of the vagina. Histologic study of a biopsy specimen showed it to be an adenocarcinoma. The patient received two radium treatments and a series of x-ray treatments. She has remained well for slightly over five years since the first treatment was given. Two photomicrographs illustrate the article. Benjamin R. Shore


This paper is related to an earlier one on this same subject (Bull. Soc. d'obst. et de gynécé 24: 278-285, 1935. Abst. in Am. J. Cancer 27: 807, 1936). In spite of his statement there that subtotal hysterectomy should not be abandoned, the author now asks whether, in view of the increasing number of cases of carcinoma of the stump, total hysterectomy should continue to remain an exceptional operation or whether, on the contrary, its indications ought to be enlarged. Charles A. Waltman

Educating the general practitioner concerning the clinical nature of chronic cervicitis and its treatment is advocated as a means of preventing carcinoma of the cervix.

Charles A. Waltman


A report of sarcoma developing in a myoma in a patient thirty years of age. Operation was followed by an uneventful convalescence and the patient was said to show no evidence of recurrence “many months after operation.”

Charles A. Waltman


A thirty-nine-year-old woman, with a six months’ history of metrorrhagia, was found to have a cervical growth which had invaded the vagina, the adjacent lymph nodes, and the pelvis. A piece was excised for examination and radium therapy was instituted, but the patient left the hospital of her own accord. Three months later, when she returned for a transient pulmonary condition, the disease was so far advanced and her general condition so unsatisfactory that irradiation was not undertaken. Complaints of pain in the shoulder and chest led to a radiographic examination, which showed the presence of changes suggesting bone tumor. Death occurred about a month afterward.

The uterine neoplasm and the skeletal metastases were identical in their microscopic structure. The tumor cells were large, round or polyhedral, and clearly demarcated, with a basophilic non-granular cytoplasm and large round or oval nuclei containing a chromatin network of uncommon delicacy and several large metachromatic nucleoli. These elements, identified as hemocytoblasts, made up most of the tumor but not all. Other cells, similar in form but possessing a basophilic cytoplasm filled with azurophil granules, were recognized as myeloblasts, and finally, a few nucleated erythrocytes were encountered. Mitotic figures were unusually plentiful.

The growth, which the authors call a myelosarcoma or, more accurately, a myeloid hemocytoblastosarcoma, is referred to the hemocytoblast, a derivative of the ubiquitous hemohistioblast, histiocyte, or clasmatocyte of Ranvier—a persistently embryonal multipotent reserve cell which may differentiate ultimately into reticulo-endothelium, connective-tissue phagocytes, erythrocytes, or leukocytes.

The authors have not found any similar case in the literature.

The neoplasm in the cervix was unquestionably the primary growth, since it preceded the skeletal tumors by about ten months.

The paper is illustrated by roentgenograms and drawings of microscopic sections.

Wm. H. Woglem


This is a brief discussion of the clinical aspects of uterine fibroids, stressing the coexistence of carcinoma, particularly in the cervix. The conclusions are based largely upon the review of the Belgian Gynecological Society in 1930, showing carcinoma in 2 per cent of a series of total hysterectomies done for fibroids.

There are no illustrations or other references to the literature.

Theodore P. Eberhard

“Habitus Genitalis” or the Genital Type, According to Sfameni, and Uterine Fibromyomata, M. Randazzo. “Habitus genitalis” o tipo genitale, secondo Sfameni, e fibromiomii dell’ utero, Monitore ostet.-ginec. 7: 1–35, 1935.

This article includes a discussion on the importance of the individual constitution in relation to disease, particularly in relation to neoplasms, a consideration of various theories as to the etiology of uterine myomas, and a table of statistics as to possible
causative factors in 358 reported cases. The statistical study is inconclusive. The author favors the theory of Sfameni that the particular type of endocrine set-up in the individual case determines susceptibility to disease, and that an increase or a change in type of the ovarian secretion is the factor that stimulates the growth of the uterine musculature and causes the formation of myomas. A long bibliography is appended.

JEANNETTE MUNRO


Among 316 uterine fibromyomas 7 or 2.2 per cent showed red degeneration. The clinical histories of these 7 cases are given in detail. The chief symptoms were pain, fever, menorrhagia, and tenderness. None of the cases presented any unusual characteristics, and all were cured by operation. Three photographs, five photomicrographs, and ten references are included.

EDWARD HERBERT, JR.


Greenhill reports three cases of fibromyoma of the uterine cervix, one of which developed in the cervical stump after hysterectomy.

BENJAMIN R. SHORE


Rose reports the case of a thirty-three-year-old woman in whom a soft fibroma of the extra-abdominal portion of the right round ligament developed after a Crossen-Gillian suspension of the uterus. This is the only case on record in which a tumor of the extra-abdominal portion of the round ligament has been observed. One photograph of the gross specimen is included.

BENJAMIN R. SHORE


A married woman thirty-five years old passed a hydatid mole spontaneously on June 12, 1933. Six days later a Friedman test was negative. The uterus was curetted and histologic study of the curettings showed no evidence of residual mole. The patient was next seen on Nov. 18, 1933, at which time the diagnosis of an incomplete abortion was made. No treatment was given and she was discharged to be readmitted on Nov. 29, 1933, because of profuse uterine bleeding. Histologic study of tissue removed from the uterus at this time showed a typical chorionepithelioma. An Aschheim-Zondek test on the urine was positive at this time. The patient died in January 1934. It is believed that proper therapeutic measures might have been instituted in this case if repeated Aschheim-Zondek tests had been done after the spontaneous passing of the mole. Three photomicrographs illustrate the article.

BENJAMIN R. SHORE


A twenty-six-year-old woman developed a chorionepithelioma of the uterus simultaneously with a six-months pregnancy. Because of continued bleeding following premature delivery a laparotomy was performed and the fundus of the uterus, both tubes and the ovaries were removed. In cutting across the right broad ligament and cervix, tumor tissue could be seen infiltrating the structures throughout. It was impossible to consider removal of the cervix because of the extent of the growth. Roentgen irradiation was begun twelve days after operation and continued with only slight interruptions for thirty-seven days. The total dose measured in air was 8712 r units and the estimated tumor dosage was 3740 r. The Aschheim-Zondek test was markedly positive throughout the course of the disease and became negative for the first time about two months after operation. The patient has remained well without evidence of metastases for about sixteen months after operation. This is the first case reported in which a
malignant chorionepithelioma has developed in the presence of a normal gestation with a living child. Two photomicrographs and a photograph of the gross specimen illustrate the article.

Benjamin R. Shore


On a purely theoretical basis it is suggested that serum from women in the puerperium and possibly also in the latter part of pregnancy be administered to patients suffering with chorionepithelioma. If the reaction is favorable mare's serum should be investigated. There are no case reports.

Charles A. Waltman


A twenty-five-year-old woman with a malignant chorioma of the chorioadenoma type was treated by panhysterectomy and bilateral salpingo-oophorectomy and has remained well for three months after operation. Repeated Aschheim-Zondek tests have all been negative.

Benjamin R. Shore


The author presents the autopsy findings in a forty-eight-year-old woman dying of cerebral apoplexy. Each tube was normal in its interstitial part and only slightly dilated in the isthmus, but was tremendously stretched in the ampullar portion by an intratubal fibrous tumor 1 cm. or more in diameter. Typical obliterating fibrocaseous tuberculosis with areas of calcification was found in the abdominal end of each tube.

Microscopic sections through the ampulla revealed in place of the mucosa and inner muscle coat a tumor composed of fine tubules surrounded by trabeculated fibromuscular tissue, with complete absence of inflammatory elements. The tubules were lined by a single layer of cylindrical epithelium with basal vesicular nuclei, and surrounded by a basement membrane and zone of cellular stroma. Cilia were often present and a larger central tubule was regarded as representing the remnant of tubal canal. There was a sharp change from this endometrioid structure to typical tuberculous granulation tissue in the proximal and distal ends of the tubes. Because of this independence the author rejects inflammation and accepts a malformation of the müllerian ducts as the cause of the tubal nodules described.

Nelson B. Sackett


Friedman reports the case of a forty-year-old woman with an extensive endometriosis involving the pelvic organs and sigmoid colon. The residual tumor in the pelvis disappeared following supravaginal hysterectomy and bilateral salpingo-oophorectomy.

Benjamin R. Shore


A woman thirty-four years of age complained of dysmenorrhea since the age of twenty-one. A mass was felt in the right adnexa and at operation a tumor 10 cm. in diameter was found on the right fallopian tube. It was removed and proved to be a fibroma. The patient made an uneventful recovery. Four photomicrographs are included.

Edward Herbert, Jr.

This is a general discussion of the symptomatology and pathology of four ovarian tumors whose origin is linked up with anomalies in embryonic development of the ovary. They are the granulosa-cell carcinoma, arrhenoblastoma, disgerminoma, and the so-called Brenner tumor. One photograph of a gross specimen and several photomicrographs illustrate the article.

Benjamin R. Shore


A woman of thirty-two years had an abdominal tumor which had appeared three years earlier, after her seventh pregnancy. She had menstruated only twice in the interval. The distribution of the body hair was masculine in type and the voice was husky and changeable, like that of an adolescent boy. Removal of a tumor of the right ovary was followed promptly by a return of feminine characteristics. The voice became higher in pitch, the menses were reestablished, the profuse growth of body hair disappeared, and the whole appearance lost its preoperative masculine aspect. Improvement continued a year after operation and there was no recurrence. The pathologic findings are given in detail and are shown in photomicrographs.

The tumor consisted, probably, of testicular tissue. There was cord formation but no attempt at the construction of tubules or acini, nor was there any spermatogenesis. The chief cells were of two types. One was often noted in groups, with a relation to blood vessels suggestive of endocrine structures in general. This cell exhibited many of the structural characteristics of the testicular interstitial cell of Leydig, though it did not show the pigment common in the Leydig cell. The second type of cell was fusiform, suggestive of embryonic fibrous tissue, with some evidence of change into the former type. It may have represented the mesodermal tissue from which the interstitial cell is said to arise.

The microscopic picture on the whole was highly suggestive of arrhenoblastoma and the clinical course was characteristic. Since, however, in addition to the testicular cells and embryonic mesodermal fibrous tissue, the tumor contained tissue which is not found in the gonad of either sex, the author regards it as a special type of teratoma and believes that the previously reported arrhenoblastomas may also be so classified. A bibliography is appended.

Benjamin R. Shore


Two cases of Krukenberg tumor in which the primary tumor was located in the pylorus are reported. The author reviews the literature and adds an excellent bibliography of approximately 45 references.

Charles A. Waltman

Two cases are reported. The first was a pure fibroma of the right ovary, 3 cm. in diameter, in a woman thirty-seven years of age. The clinical symptoms are not given. The second case was a tumor of the left ovary which weighed 1800 grams and occurred in a woman sixty-nine years of age. Ascites was present. Microscopically the tumor was composed of young fibroblasts and precollagen fibers having a perithelial distribution. No follow-up is given. There are no illustrations. Edward Herbert, Jr.


Forty cases of spontaneously amputated ovarian cysts were found in the literature, and an additional case is reported in a woman fifty-six years of age. She complained of a mass in the right lower quadrant and increasing dysuria. At operation a tumor the size of a large orange was found, adherent to the omentum. It had no other connections, and the left ovary was missing. On section it was found to be a dermoid cyst containing teeth and hair. The patient made an uneventful recovery. There are no illustrations. Edward Herbert, Jr.


Eighteen of 45 patients with leukoplakia of the vulva seen by the author from 1915 to 1930 refused operation. Vulvectomy was done in the remaining 27 and five-year results on this latter group showed 17 per cent to be alive and completely relieved of their symptoms; 5 could not be traced and 2 died of other causes during the five-year period. In the remaining 3 cases there was only a small recurrent area which required local cautery to bring about a cessation of symptoms.

A complete Basset operation was done in 43 cases of carcinoma of the vulva seen between 1915 and 1930. Among 23 patients operated on or more years previously there was one operative death and 6 deaths from recurrence. Fifteen patients are living free of the disease, a five-year curability of 65 per cent. The ten-year follow-up on 12 patients showed a ten-year rate of curability of 55 per cent. With an operability of 75 per cent and a primary mortality of only 4.6 per cent, the treatment of cancer of the vulva gives, with the exception of cancer of the uterine body, the most favorable prognosis of any form of malignancy in the genital tract.

It was a striking fact in this series of cases that when a portion of leukoplakic skin was for some reason not removed in operations for simple leukoplakic vulvitis, cancer never developed in such an area. On the other hand, when such a leukoplakic island was left after operations for cancer of the vulva arising on a leukoplakic base, it was found that in the course of two to six years a new cancer developed upon such a leukoplakia in 5 out of approximately 40 such combined lesions. Photographs of two gross specimens illustrate the article. Benjamin R. Shore


A thirteen-year-old girl had a tumor of the right labium which had gradually enlarged during eight years until it measured 6 to 8 cm. in diameter. It was attached to the region of the external abdominal ring by a delicate pedicle. The photograph shows a large lipoma from the surface of which protrude three widely separated lobules of pale gray, viscous tissue exuding sticky fluid. The author believes the lipomatous portions to be derived from a primary undifferentiated connective-tissue tumor by a process of evolution.

Twenty-three cases of myxoma of the labia majora are reviewed, including 11 pure myxomata, 7 with fibromatous changes, 2 fibromyomyxomata, 2 myxolipomata, and a non-capsulated myxofibrolipoma. Nelson B. Sackett

A nulliparous woman of forty-five had a small tender swelling of the right labium majus. This became excessively painful immediately preceding menstruation and yielded a blood-stained discharge during the menstrual period. A right Bartholin’s cyst had been removed five years earlier and repeated abscesses had occurred in the scar. In the following year the gland and an abscess were excised. Suppuration occurred and an open wound resulted. The patient began to menstruate two days later. The wound failed to heal and in four months a small lump appeared at the site. It was four years and a half after this that the author was consulted. The tumor was removed and on microscopic examination showed typical endometrium. It is believed that the tumor had arisen as the result of implantation of endometrial cells present in the menstrual blood after the last operation for abscess.

THE GENITO-URINARY TRACT


The outstanding advances in combating urologic cancer are (1) earlier and more definite diagnosis of kidney neoplasms; (2) the more successful handling of bladder tumors by use of fulguration and radon seeds; (3) the enormous improvement in the treatment of teratoma testis and its metastases by the Coutard method of roentgen irradiation.

Benjamin R. Shore


Nine cases of papillary adenocarcinoma and 4 papillary epitheliomas of the kidney are reported. Nephrectomy was performed in 6 cases, with 3 two-year cures and one five-year cure. There are no illustrations.

Benjamin R. Shore


The three symptoms of renal tumor are hemorrhage, tumor, and pain. If hemorrhage occurs early in the course of the disease an early diagnosis can be made by renal function tests, the examination of the urine for tumor fragments, and pyelography. Nephrectomy offers the best hope of cure.

Gray H. Twombly


Following a terse description of the gross morphology of hypernephroma, its histology, and methods of propagation, the authors defend the present nomenclature. They maintain that the original Grawitz theory of the origin of these neoplasms from aberrant adrenal rests is correct. [The general trend in the literature runs contrary to this point of view. See, for example, Astraldi: Bol. Inst. d. med. exper. para el estud. y trat. del cancer 11: 905, 1934 (Abst. in Am. J. Cancer 28: 839, 1936).] The authors state, moreover, that the hypernephroma is always a benign, well encapsulated tumor at its onset and that its histology, at that stage, points incontrovertibly to an adrenal origin. When, however, the tumor assumes malignant properties and penetrates its capsule, the cells undergo marked changes. It is this later atypical character which causes some observers to insist on an origin from renal epithelium.

A case is presented in detail with pyelograms and photomicrographs.

Adolph Meltzer

Case of Mixed-cell Sarcoma Originating from the Capsule of the Kidney, T. Nakazawa.


This is a report of a case in a sixteen-year-old girl clinically diagnosed first as vertebral caries and later as vertebral sarcoma. Later, a mass some 15 cm. in diameter
was discovered in the right kidney region. Autopsy revealed a tumor of the renal capsule with metastases in the first and second lumbar vertebrae, twelfth thoracic vertebra, the retroperitoneal region, and the pancreas. Histologically this tumor was a mixed-cell sarcoma. The article is illustrated by one photograph of gross material and one photomicrograph.


Campbell reports the case of a twenty-three-year-old patient in whom a hydronephrosis was produced by a papilloma situated at the ureteropelvic junction. Nephrectomy was performed. A roentgenogram and a photograph illustrate the report.

BENJAMIN R. SHORE


Simpson has studied 56 cases of primary tumor of the bladder during the past fifteen years. These included 10 papillomas, 12 papillary carcinomas, 19 infiltrating carcinomas, an adenocarcinoma, and 14 cases in which there was no histologic diagnosis. Hematuria was by far the outstanding symptom and occurred in all but 6 of the cases. Multiple lesions were present in 43 and single lesions in 13 cases. Twenty-five living patients have been traced. The 7 alive for less than one year were treated as follows: 1 resection, 2 excisions and 4 fulgurations. Four patients are alive from one to three years; of these, 2 had excisions and 2 fulguration. Six are alive from three to five years, 2 of whom had excisions and 4 fulguration. Eight are living five years or longer, 6 of whom had fulguration, 1 a resection, and 1 an excision. In all, there were 18 cured patients, which represents 32.1 per cent of the entire group and 43.9 per cent of the traced cases. Eleven of the tumors in the 25 followed cases were of low-grade malignancy, 8 of high-grade, and 6 had no biopsy. In all of these last 6 patients, however, the disease was clinically of definitely low-grade malignancy.

BENJAMIN R. SHORE


Primary neoplasms arising in bladder diverticula were present in 5 of 221 patients with diverticula seen at the Cleveland Clinic. Hematuria was the outstanding symptom and occurred in all of the cases. In the majority of patients, diverticula of the bladder may be diagnosed readily by cystoscopic and roentgen examination. In the instances in which blood can be seen spurting from the orifice of the diverticulum, the presence of a neoplasm may be suspected.

Total resection of the diverticulum containing the tumor is the rational treatment. Whether the intravesical or extravesical technic is utilized depends upon the preference of the surgeon. In the 5 cases reported here the extravesical procedure was used. One patient with papilloma of the bladder died of a cerebral embolism seventeen months after leaving the hospital; one with a carcinoma died of a pulmonary embolism on the twenty-first postoperative day; the third with a carcinoma lived one year and six months without recurrence; the fourth died of an unknown cause two years after removal of a papilloma; and the fifth patient is living without recurrence six months after operation.

Roentgenograms and drawings illustrate the report.

BENJAMIN R. SHORE


A forty-three-year-old man died of uremia from ureteral obstruction due to carcinoma of the bladder. The interesting feature of this case was the fact that the blood urea nitrogen rose to 205 mg. and the creatinine to 24 mg. per 100 c.c. before death.

BENJAMIN R. SHORE


A patient with recurrent vesical tumors was treated by total cystectomy preceded by bilateral ureterostomy. The tumors were reported as squamous-cell epithelioma.
Grade I. The patient was in good health one month after the operation. A second patient had a squamous-cell epithelioma, Grade IV, that on cystoscopy appeared to involve the whole dome of the bladder. At operation the tumor was found to be attached by a narrow pedicle to the dome and was easily removed. There are two references and two illustrations.

CHARLES A. WALTMAN


In a series of 133 consecutive transurethral prostatic resections 11 cases of carcinoma were encountered. Correct preoperative diagnosis was made in all but 2 of these cases. One case not suspected either clinically or microscopically of being malignant after the first resection, was proved to be carcinoma after a second resection. This indicates that in early cases sufficient tissue to demonstrate malignancy may not be removed by the resectoscope.

BENJAMIN R. SHORE

Carcinoma of the Prostate Simulating Primary Rectal Malignancy, C. J. E. KICKHAM. J. Urol. 35: 342–348, 1936.

The author reports 4 cases of carcinoma of the prostate in which the predominant symptoms were referred to the rectum. Among these were intractable constipation, tenesmus, mucous discharge from the anus, fecal incontinence and, in one instance, bleeding. Symptoms referable to the genito-urinary tract were either absent or mild in character. Findings on digital examination of the rectum closely simulated those of rectal cancer, and the correct diagnosis was only made after proctoscopic, cystoscopic, and roentgenologic studies. There are no illustrations.

BENJAMIN R. SHORE


The case of a forty-six-year-old man with a large inoperable myxosarcoma of the prostate gland is reported. The diagnosis was made on histologic study of a biopsy specimen and tissue removed at autopsy. In the terminal stages the growth involved the pelvic structures widely but produced no regional or distant metastases. Photographs and photomicrographs illustrate the article.

BENJAMIN R. SHORE


This article, published in two installments, is an exhaustive review of the literature on nearly every phase of penile cancer, with reports of 7 cases. The irritation from chronic balanitis and the presence of syphilis the authors consider the prime etiologic agents. The glans is the most common site of origin after the balanopreputial sulcus, the shaft next, then the prepuce, and last the meatus. Most genital tumors are really urethral in origin. Metastatic tumors of the penis are rare.

Metastases from primary epitheliomas of the penis are common and are generally bilateral, involving the inguinal and iliac lymph nodes. Visceral metastases are rare.

The symptoms vary according to the location of the tumor and upon whether or not the patient has been circumcised. Lesions near the meatus cause pain on micturition; with those involving the shaft there may be some pain on erection. Ulceration and bleeding occur early as a rule. In spite of this the patients are usually seen late because of shame or fear of venereal disease. Even so the doctor often fails to recognize the lesion and treats it with topical applications.

Surgical treatment is of four types: local excision of the tumor, partial amputation of the penis, total amputation, and complete emasculation, all of them with or without dissection of the inguinal nodes. Other methods of treatment are electrocoagulation, radium therapy, and roentgen therapy, again sometimes combined with groin dissection or roentgen treatment of the inguinal nodes. The authors unhesitatingly recommend interstitial radium treatment for the primary lesion, with later excision if necessary. For the nodes, however, they are equally in favor of radical surgery, reserving any form of radiotherapy for palliation in advanced cases.
Complications of the disease, or of the treatment, outside of recurrences and metastases, consist principally of cystitis, urethritis, and pyelitis. Metastases are frequent and early; 57 per cent occur within the first year after treatment; later the incidence falls rapidly until after the third year almost none are seen. Local recurrences are rather common both after surgery and radium therapy, but are handled quite satisfactorily by local excision. The psychic trauma is overestimated, in the opinion of the authors, though they are insistent upon the desirability of leaving younger men in condition to reproduce.

The commonest type of tumor is the squamous-cell epithelioma, though other forms such as basal-cell epithelioma, malignant melanoma, and fibrosarcoma are reported. The melanomas are extremely malignant.

The 7 cases reported were treated between 1931 and 1934. Three of the patients had died, 1 was living with metastases, and 3 were apparently free of disease. All but one were treated with radium therapy, two with a 1 cm. radium mould, and the others with interstitial radium. Complete data are given for each patient.

There are several photographs of representative lesions, and a long bibliography is appended.

**THEODORE P. EBERHARD**


This is a detailed report on the pathology, clinical features, and treatment of malignant tumors of the testicles. For the diagnosis, which is sometimes difficult, the Aschheim-Zondek test is important. The discussion of therapeutic results is based on the observations made at the University of Zurich from 1925 to 1935. Of 20 cases, 6 were treated by a single high dose (100 per cent of the skin-erythema dose), while 14 received fractional (2500 to 3000 r) or protracted fractional doses (several series of 2500 to 3000 r, totalling 5000 to 29000 r). The latter method seems to be more effective. The best results are obtained by radical removal of the growth with preoperative and postoperative irradiation. The case histories are tabulated. A comprehensive bibliography is appended.

**F. BURGHEIM**


In the human subject the morphology of the seminoma, or seminiferous epithelioma as the authors prefer to call it, is remarkably uniform. All authorities agree that the growth consists of massed ovoid or polyhedral cells with a definite outline and cytoplasm rich in glycogen, but as to the origin of these elements opinion is still divided, partly because of the inadequate histological technic customarily employed by the pathologist and partly because the investigation has been restricted to man. The studies prosecuted by the authors on more than 500 testicular neoplasms from both lower animals and human patients account for these divergent opinions and explain the errors of interpretation underlying them.

The seminiferous epithelioma arises from an undifferentiated common ancestor of the gamete and the interstitial cell in the normal or ectopic testis, the ovoocytes of glandular hermaphroditism, in pseudohermaphroditism, or in the ovary that contains male remnants. As its cells provide no hormone it does not modify the secondary sexual characteristics of its bearer. In the domestic animals its structure is not so uniform as in man, though still characteristic of its origin. The typical morphology here and elsewhere, for this neoplasm occurs also in amphibians and perhaps in birds, combined with its evolutionary tendencies, abolishes at once the confusing nomenclature of the past—lymphadenoma, lymphendothelioma, sarcoma, embryo with malignant transformation, etc. Nor is there any further need for classifications like one recently proposed, which recognizes no less than four varieties of seminoma, the mesoblastic, spermatogonic, sertolian, and mixed, for it is obvious that these merely represent so many stages in the differentiation of the implicated cell.
ABSTRACTS

The paper is illustrated by a number of schematic pen drawings. [See also the abstract of a paper by Peyron et al. on p. 158.]

WM. H. WOGLM


Polyembryony, discovered by the authors in an embryo of the testis, occurs in two forms, one of which, the polyvesicular embryo, has already been described [Compt. rend. Soc. de biol. 121: 942, 1936. Abst. in Am. J. Cancer 29: 630, 1937]. The other type, discussed in the present article, is much less rare. It resembles the polyembryony of the Hymenoptera and results from the multiplication of small embryos or of embryonic buds.

The account, for details of which the reader is referred to the original article, is illustrated by three drawings.

WM. H. WOGLM


This is a description of the case of a man aged twenty-nine who had a tumor of the left testicle, and bilateral enlargement of the breasts with a discharge of whitish liquid from the nipples. The Aschheim-Zondek test was positive. The patient developed an enlarged liver, fluid in the chest, and icterus, and died four months after his illness began. Autopsy showed a chorionepithelioma of the left testis, with metastases to the liver, lungs, and lumbar lymph nodes. A photograph of the patient, five photomicrographs of the tumor, and a colored drawing of the pituitary, which showed the changes usually associated with pregnancy, are included in this careful report.

C. D. HAAGENSEN


A fifty-nine-year-old man had an intrascrotal lipoma measuring 3 in. in diameter. The growth was attached to the scrotal wall and had no connection with the spermatic cord. Complete recovery followed simple excision.

BENJAMIN R. SHORE

THE NERVOUS SYSTEM


This is a general discussion covering the circulation of the cerebrospinal fluid and the symptoms caused by blockage, the general effects of increased intracranial pressure, and the importance, in the diagnosis of brain tumor, of a complete examination of the eye, vertigo, convulsions, mental changes, neurological examination of the rest of the body, roentgen study of the skull, and ventriculography. It concludes with a short paragraph on the treatment of brain tumors.

GRAY H. TWOMBLY


Convulsions occurred in 150, or 20.7 per cent, of 724 patients with brain tumors. There were 397 cerebral or supratentorial tumors, 247 cerebellar or infratentorial tumors, and 79 pituitary growths. Convulsions were present in 138, or 34.8 per cent, of the 397 cerebral tumors; in 12, or 4.8 per cent, of 247 cerebellar tumors, and in none of the 79 pituitary growths. Twenty-seven patients had had convulsions over periods of time ranging from five to twenty years before the diagnosis of tumor was made. These patients had benign, slow growing neoplasms which in some cases had attained such enormous size that surgical removal was technically difficult. The elimination
THE NERVOUS SYSTEM

of the diagnosis of brain tumor in any patient who has convulsions is necessary if these neoplasms are to be diagnosed earlier. Roentgenograms and several case histories are included.

Benjamin R. Shore


Only a limited number of intracranial tumors produce ocular manifestations of exact localizing significance. Certain tumors of the chiasmal region, the temporal lobe, the brain stem, the cerebellopontine angle, and the pineal body may give ocular manifestations which determine the exact localization of the growth, but all tumors of these regions do not consistently produce the characteristic picture. With the exception of the rare Foster Kennedy syndrome in frontal lobe tumors and the characteristic syndrome of temporal lobe tumors sometimes observed, there is little in the ocular picture which permits localization of tumors of the cerebral hemispheres. Nor are there, as a rule, any characteristic ocular signs in tumors of the third ventricle, basal ganglia, or cerebellum which permit of exact localization.

In general, choked disc is usually found when the intracranial pressure is elevated, but a small number of brain tumors, from 10 to 15 per cent, never produce the picture of papilledema. In cases of suspected intracranial lesions a careful ophthalmologic examination with perimetric studies will usually show if there is increased intracranial pressure and will always show if the visual pathways of the ocular nuclei are involved. The changes produced by tumors are usually slow and gradual in their development; those produced by hemorrhage, inflammation, and abscess are usually sharper and more abrupt.

Benjamin R. Shore


In the first of these papers, No. X in a series on the sense of smell, the authors describe the technic of two olfactory tests. In one of these, called the blast injection test, a measured volume of an odor is injected into the nasal passages under a known pressure during a period of voluntary cessation of breathing, making it possible to establish a minimum identifiable odor, i.e. the smallest number of cubic centimeters by which the patient can identify the odor.

The other test, known as the stream injection test, consists in the injection into one or both nasal passages, at a known volume rate per minute, of a continuous stream of odor for varying periods of time, during which the patient breathes through the mouth. This test is used for the production of olfactory fatigue, the duration of which, as established by blast injection tests, is of importance for the localization of brain tumors. The substances best adapted for the tests are ground coffee and citral.

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Paper XI is a preliminary report upon the use of these tests for localizing supratentorial tumors. The significance of olfactory tests in brain tumor localization is dependent upon the fact that tumors beneath the frontal lobes exert direct pressure upon one or both olfactory bulbs and tracts, interfering with the transmission of olfactory impulses. Pressure upon the anterior commissure, which is recognized as an important olfactory pathway, also causes disturbances of the sense of smell, as does interference with the normal functions of those areas in which odors are perceived and identified.

Tests are recorded in 52 patients with supratentorial tumors verified by operation, autopsy, or roentgen studies. While the number of cases is small and the experience with the test is limited, certain indications emerge, as follows:
1. When a neoplasm exerts pressure upon one olfactory nerve, the minimum identifiable odor (M.I.O.) of that side is higher than normal and a larger quantity of the odor has to be injected into that side of the nose before the odor can be identified. If both olfactory nerves are involved, the M.I.O. of both sides is higher than normal, the greatest increase being found on the side most affected. This diminution in unilateral or bilateral olfactory acuity occurs in expanding lesions on the under surfaces of the frontal lobes of the brain. It was regularly found in the suprasellar meningiomas and in aneurysms of the internal carotid artery or the anterior part of the Willisian circle. In pituitary adenomas that have not extended beyond the confines of the sella turcica the M.I.O. is within normal limits, but if the growth projects above the sella, the olfactory tracts are subjected to pressure and the M.I.O. of one or of both sides of the nose is higher than normal. In all of these cases the duration of olfactory fatigue is not longer than normal.

2. In intracerebral tumors and large dural growths that have become buried in the brain, the M.I.O. is not raised, but the duration of fatigue is prolonged on the same side as that of the neoplasm.

3. In tumors in or near the midline of the cranial cavity, such as the parasagittal meningiomas, infiltrating growths which extend to the mesial surface of one cerebral hemisphere, in tumors of the corpus callosum and other midline growths, the duration of fatigue produced by the stream injection of odors is prolonged and lasts for more than ten minutes.

4. In frontal lobe tumors that extend to the under surface of one lobe so that the olfactory bulbs or tracts are subjected to direct pressure, the M.I.O. on the affected side is greater than normal and the duration of fatigue is prolonged.

5. In patients with a generalized increase of intracranial pressure, there is often an increased irritability of the olfactory pathways so that the M.I.O. is lower than normal.

Paper XII deals with frontal lobe tumors, and records the results obtained in 47 patients. In 25 of these, the expanding lesion was subfrontal and extracerebral, and in 22 there was a growth within the substance of one or other frontal lobe. Of the 22 cases of intracerebral frontal tumor, 19 were subcortical gliomas, 1 was a glioma that had invaded the cortex, and 2 were large meningeal growths that had become buried in the affected lobe. Localization was made by olfactory tests in 46 instances.

In 25 of the patients, the tumor was extracerebral and lay underneath one or both frontal lobes. In these cases the M.I.O. was elevated on one or both sides, while the duration of fatigue produced by a stream injection of the odor was not prolonged beyond the normal.

In 11 patients, the growth was within the substance of one or other frontal lobe, and in these the M.I.O. was elevated on the side of the tumor and the duration of fatigue was prolonged on the same side.

In a patient with an intracranial tumor in whom the M.I.O. is elevated but the duration of fatigue is not prolonged, the growth is situated underneath the corresponding frontal lobe; if there is unilateral elevation of M.I.O. and prolongation of olfactory fatigue on the same side, the tumor is in the substance of the corresponding frontal lobe.

Short abstracts of some of the cases are included, with the olfactory findings and their interpretation.

Paper XIII explains the prolongation of olfactory fatigue on the affected side in tumors of the brain within one cerebral hemisphere on the basis of summation of impulses from the two olfactory membranes. For the detailed explanation of this phenomenon and for a full exposition of the nature of the tests and their physiological basis the reader must consult these and the earlier papers in the series (Bull. Neurol. Inst. N. Y. 4: 1-34, 264-293, 479-500, 1935).


Dyke and Davidoff believe that encephalography or ventriculography is applicable to the diagnosis of corpus callosum tumors and report 8 cases in which the presence of
the neoplasm was established or suggested by this means. In 3 instances the diagnosis was verified at necropsy and in 2 at operation. No clinical syndrome has been discovered permitting definite diagnosis of these lesions.

Both the clinical and roentgen findings in the author's cases are presented and the encephalograms are reproduced. The characteristic findings are: (1) separation and asymmetrical distortion of the lateral ventricles; (2) a sharp defect in the dorsal margin of one or both lateral ventricles; (3) occasional failure of one lateral ventricle to fill with gas; (4) distortion of the sulci and convolutions on the medial aspect of the brain; (5) deformity or obliteration of the dorsal and rostral part of the third ventricle.

Confirmation not only of the presence, but also of the size of the tumor, may be gained from the degree of distortion and displacement of the lateral and third ventricles and cingulate and callosal sulci.

A short bibliography is appended.


Helfer compares the cerebellopontine angle tumors to extramedullary tumors adherent to the dura of the spinal cord. The former are usually fixed in position, adherent to the dura, and are characterized by an increase of globulin and protein in the spinal fluid. Removal of the fluid by lumbar puncture permits the adjacent nervous tissue to fall against the tumor and an increase in the physical signs may follow.

In 10 of 16 cases of verified cerebellopontine angle tumors such an increase of signs and symptoms was observed following lumbar puncture. In 15 intracerebellar growths no such change was produced. The conclusion is reached that lumbar puncture should not be done if a tumor in the posterior fossa is suspected, but in cases of unlocalized growth in which spinal fluid is removed by this procedure, the patient should be re-examined a few hours after the puncture. If the final preoperative diagnosis is posterior fossa tumor, an increase in the physical signs after lumbar puncture together with an elevation of the globulin and protein in the spinal fluid make it highly probable that the growth is in the lateral recess and not within the substance of the cerebellar hemispheres.

A bibliography is appended.


Some investigators have concluded that there exists among the gliomas an immunological specificity. In Siris' experiments the sera of rabbits immunized with alcoholic extract of glioblastoma given intravenously at intervals of two to three days exhibited a high antibody titer, but gave no evidence of immunological specificity for the type of tumor used. Brain antigen effected greater fixation of complement with these antisera than did glioblastoma antigen.

An attempt was made to exclude the possible obscuring factor of normal brain antigenicity in glioblastoma antigen by absorbing out the brain antibody component in glioblastoma antiserum. The elimination of this factor removed all complement-fixing antibodies.

The results of the tests described in this report appear to indicate that the antibodies evoked by immunization with alcoholic extracts of glioblastoma are in reality normal brain antibodies. If further tests give the same results, it is probable that glioblastoma multiforme will have to be regarded as being composed of normal brain elements whose immunologic characteristics do not differ essentially from those of brain tissue not undergoing neoplastic change.

The sera of animals immunized with glioblastoma did not fix complement in the presence of meningioma antigen. Rabbits injected with meningioma extract failed to give tumor-specific antibodies. The results would also seem to indicate that both normal brain and tumors of brain tissue are immunologically specific with respect to meningioma.

A short bibliography is appended.

Calcium and Phosphorus Metabolism in a Verified Case of Pituitary Basophilism, R. H. Freyberg and R. L. Grant. Ibid. 58: 213–228, 1936.


These three reports concern a well observed case of pituitary basophilism in a nineteen-year-old male, with autopsy findings. Roentgen therapy was unsuccessful, but results in some of the recorded cases lead the authors to suggest that intensive irradiation be given a trial.

Interesting features of the case reported were the extreme generalized skeletal demineralization, great enlargement of the thymus, and adrenal hypoplasia. The pituitary was slightly larger than normal and showed areas suggestive of basophil adenoma.

The first of the three papers includes a table giving the features of 8 cases reported since Cushing's description of this syndrome in 1932 (Bull. Johns Hopkins Hosp. 50: 137, 1932. Abst. in Am. J. Cancer 18: 504, 1933). A second table lists 14 cases of cortical adrenal lesions or thymic tumors showing characteristics of pituitary basophilism, and a third gives methods of administration and results of roengten therapy in 18 cases.

The reports are well illustrated, the first including numerous photomicrographs and the second diagrams illustrating calcium and phosphorus exchange. Bibliographies are appended.


With the progress in roentgen therapy of other organs, advances have also been made in the treatment of diseases of the central nervous system. With intracranial tumors, special care is necessary. The single dose, used by the author, was not more than 50 to 120 r, to avoid an increase in intracranial pressure. If possible, a spinal puncture before and after irradiation is recommended.

There are three groups of primary intracranial tumors. The first group, the tumors derived from the meninges have a very low radiosensitivity. Nevertheless, 2 of 8 cases treated by the author showed excellent results. These were irradiated with one frontal and two temporal fields, each field receiving 2400 r in fractional doses, 180 kv., 2–4 ma., 1 mm. copper filtration, and 30 cm. skin-focus distance. The series was repeated after three months.

The second and largest group is that of the gliomata. Good results were obtained in this group; only 6 of the 28 cases were not influenced. The conditions of irradiation were 2400 to 3000 r in fractional doses, 3 fields corresponding to the seat of the tumor, two to three series applied with an interval of three to six months.

The third group is made up of tumors of the hypophysis. Here 3 to 4 fields were used, each field receiving 1500 to 2500 r in fractional doses. Most of the patients were at least improved for some time, but on the suprasellar and retrosellar cholesteatomata even doses of 3500 r per field had no effect.

Summing up his results, Löw-Beer believes that the treatment of most intracranial tumors should be surgical. X-ray therapy is indicated when the tumor cannot be removed completely or operation is impossible.


A group of 50 gliomas was studied in an attempt to determine the effects of radiation upon these tumors. Only cases were chosen in which both pre-irradiation and post-irradiation specimens of the tumors were available. The pre-irradiation specimen was obtained when the tumor was first attacked surgically. The post-irradiation specimen was sometimes from a second operation, and sometimes from autopsy.
The group studied included some examples of all of the currently recognized types of glioma. The types comprising the bulk of the series were, however, medulloblastomas, glioblastomas, and astrocytomas.

Some of the tumors of each type showed striking histopathological changes which it seemed reasonable to credit to radiation. Other tumors showed less convincing changes, while still others showed none.

The histopathological changes considered to be due to radiation seemed primarily effects upon the tumor cells themselves. Manifestations of cell injury were often found, which, when severe, resulted in death of the cell. There was an increase of necrosis and often an appreciable reduction in cellularity of the growth as determined by actual cell counts. Mitotic figures in general were less frequent following radiation, as determined by counts. Post-irradiation specimens sometimes showed the appearance of or increase in giant-cell forms.

It is the writer's impression that the blood vessel and connective tissue phenomena commonly seen in post-irradiation material are secondary and essentially incidental changes.

Examples of histopathological changes apparently caused by roentgent therapy were encountered not only in tumors of a lower order of differentiation such as the medulloblastoma, but also in tumors of a high degree of maturity such as astrocytomas.

Four cases are reported, photomicrographs are included, and a bibliography is appended.


A twenty-four-year-old girl was brought to the hospital in a semicomatose state, with slight stiffness of the neck, hyperesthesia, exaggerated reflexes, papilledema, retinal hemorrhages and exudate, vomiting, and complete retention and constipation. The history showed that she had always been of inferior mentality and for an indefinite time had vomited occasionally without warning, had suffered from diplopia, headache, and pain in the legs, and staggered. The Wassermann reaction in both blood and spinal fluid was negative. The spinal fluid was blood-tinted but showed no increase in white cells. The patient died in five days and an autopsy revealed an astrocytoma of the right lobe of the cerebellum measuring 6 × 5 cm., compressing the floor of the fourth ventricle, and showing a large, recent, central hemorrhage. There were also an aseptic, serous meningitis, chromatolysis of the pyramidal cells, and a neuroglial sclerosis of the cortical marginal zones.

The authors attribute most of the symptoms to sudden hemorrhage into an astrocytoma of the cerebellum of long standing. There are neither illustrations nor references to the literature.

**Theodore P. Eberhard**


A fifty-four-year-old woman had had a crossed hemiplegia for four months with papilledema, a left Babinski sign, paralysis of the right oculomotor nerve, slight external strabismus, fixity of the pupil without mydriasis, and ptosis of the upper lid. Autopsy showed a tumor approximately 3 × 3 × 4 cm. in the sella above the hypophysis, round, gray, soft, not adherent, but compressing the cerebral peduncles and causing destruction of the clinoid processes. Microscopically it was a meningioma. The authors point out that the symptoms are unusual for a tumor in this location, the usual case showing bitemporal hemianopsia from compression of the optic chiasma. There are no illustrations or references.

**Theodore P. Eberhard**


A patient with progressive symptoms of brain tumor over a period of several years developed memory loss, aphasia, slight right hemiparesis, and inability to read or write.
Through a left fronto-temporo-parietal incision a meningioma was removed from the left frontal region. Ten days after the operation the patient could speak and write. There is no bibliography and there are no photographs.

**Charles A. Walmot**

**Medicolegal Role of Trauma in Brain Tumors, R. H. Fowler.** Am. J. Surg. 33: 198–203, 1936.

Fowler reports a case of a forty-two-year-old truck driver who died sixteen days following a local injury to the head. Autopsy revealed an elongated tumor measuring 1.5 × 0.75 inches at the base of the brain. Histologic study showed this growth to be a meningioma. The author does not believe that trauma had any relation to the origin of this tumor, but that disturbances of cerebral circulation which it caused, with resulting edema, may have aggravated whatever symptoms already existed. Trauma, therefore, may be said to be a factor in the production of death in some cases of brain tumor.

**Benjamin R. Shore**

**Relation between Cutaneous von Recklinghausen’s Disease and Cerebral Tumors, R. Carrillo.** Relación entre la enfermedad cutánea de Recklinghausen y los tumores cerebrales coexistentes; notas acerca de dos casos neuroquirúrgicos, Rev. Asoc. méd. argent. 49: 354–358, 1935.

In presenting two cases the author attempts to establish the clinical relationship between the dermatological syndrome of von Recklinghausen’s disease and coexisting neoplasms of the central nervous system. He points out that there is good evidence of hereditary relationship among a large group of conditions such as v. Recklinghausen’s disease, bilateral acoustic nerve tumors, Bourneville’s tuberous sclerosis, von Hippel-Lindau’s disease, neurofibromas of the optic nerve, etc.

The first report concerns a forty-two-year-old man with symptoms of intracerebral hypertension for three months. Vomiting was so prominent a symptom that gastrotomy had been performed prior to admission. Physical examination showed involvement of the fifth, sixth, seventh, and eighth intracranial nerves. Following iodoventriculography exploration revealed a cerebellopontine angle tumor, but the patient’s general condition prevented its removal. Death occurred two months later. Autopsy confirmed the presence of the angle tumor in addition to a gigantic fibroma of the perineum, multiple nevi, and other stigmata of von Recklinghausen’s disease.

The second patient was a forty-eight-year-old woman who was explored for an intracranial neoplasm following iodoventriculography. She also had numerous small tumors scattered over her skin—nevi, café au lait spots, etc. An irremovable central tumor was found. The symptoms cleared after operation, but recurred four months later, growing progressively worse. Death ensued one year after the decompression.

The author concludes that “the bond between these two conditions is of a double character, clinical and histopathological.” There is no bibliography.

**Adolph Meltzer**


Wakeley describes a leiomyoma of the left median nerve in a forty-four-year-old patient. The tumor was excised with some difficulty, resulting in slight temporary paresis of the median nerve. No follow-up report is given. Two photographs of the gross specimen and a photomicrograph are included.

**Benjamin R. Shore**

**THE BONES AND JOINTS**


This is a brief summary of the subject of bone metastases based mainly on the work of Copeland and Geschickter. It contains no new material. Five roentgenograms and a drawing are included.

**Edward Herbert, Jr.**
Diagnosis of Carcinosis of the Bone Marrow by the Blood Picture, A. A. Humphrey. 
M. Record 144: 75–77, 1936.

The presence of large numbers of normoblasts in the circulating blood can be said to be diagnostic of carcinomatous skeletal metastases if the following criteria have been established: (1) a hemoglobin not less than 75–80 per cent and (2) an erythrocyte count of at least 4,000,000 per cu. mm. It is possible that certain rare cases of multiple myeloma or hemocytoblastoma may also fulfill these requirements.

Benjamin R. Shore


A fifty-two-year-old man died of a myxochondrosarcoma which involved the crest of the right ileum and the upper third of the right femur. Widespread metastases to the lungs, liver, lymph nodes, ribs and cervical vertebrae were found at autopsy. The growth was diagnosed six months after fracture of the neck of the right femur. Two roentgenograms illustrate the article.

Benjamin R. Shore


Four years before coming to the clinic, a woman of forty-five struck her side against a window frame. An x-ray examination showed at the site of the trauma an oblong swelling on the eleventh rib and many small periosteal thickenings on other ribs, but nothing was done at the time. On admission the patient had a round mass 4 cm. in diameter, having the aspect and density of bone, at the site of the previous swelling on the eleventh rib. It was resected and the authors state that it was a pure osteoma, though no pathological report is included in the article. They comment upon the rarity of these lesions and give references to the cases of Wakeley (Brit. J. Surg. 13: 175, 1925) and Morton (Am. J. Surg. 8: 995, 1930). Three x-ray photographs are included.

Theodore P. Eberhard


A girl of fifteen years with a tumor of the right inguinal region gave a two-year history of pain in the thigh and a sensation of crepitation in the hip while dancing. X-ray showed destruction of the right pubis by a tumor that projected into the pelvis and occupied the obturator foramen. The tumor had a multilocular appearance and there was decalcification of the structures of the hip joint. Biopsy and curettage confirmed the clinical diagnosis of benign giant-cell tumor of the pubis. There was no x-ray treatment and there is no follow-up report. A roentgenogram and photomicrograph are included.

Charles A. Waltman


This is a general discussion of multiple myeloma with the report of 6 illustrative cases. Roentgenograms and photomicrographs illustrate the article.

Benjamin R. Shore


A case of generalized osteitis fibrosa is recorded in which no parathyroid tumor could be found at operation, but which improved after ligation of the inferior thyroid vessels. The blood calcium dropped to a normal level and marked symptomatic improvement ensued for about two years, when the blood calcium again rose and the patient became clinically worse. It is believed that the establishment of a collateral blood supply to the parathyroid glands may have been responsible for this relapse. Two roentgenograms are included.

Benjamin R. Shore

The case is recorded of a fifty-three-year-old woman from whom a parathyroid adenoma was removed for generalized osteitis fibrosa. The serum calcium before operation was 18 mg. per 100 c.c.; two days after operation it was 14.4 mg. and three months later it had dropped to 8 mg. per 100 c.c. Clinical improvement was equally satisfactory and the patient was very well seven months after operation. The report is illustrated with several roentgenograms and two photographs. Benjamin R. Shore


In a forty-four-year-old woman with generalized osteitis fibrosa a clinical cure that had lasted two years and two months was obtained by removal of a parathyroid tumor. Repeated roentgen examinations of the skeleton showed continuous increases in the lime content and successive disappearance of the cysts. Roentgenograms and a photograph of the parathyroid tumor illustrate the report. Benjamin R. Shore

Osteitis Deformans of Paget; Osteosarcoma and Traumatism, H. Grizaud. Ostéite-fibreuse déformante de Paget; ostéo-sarcome et traumatisme, Presse méd. 44: 1018-1020, 1936.

This is a critical presentation of a case of osteogenic sarcoma of the upper end of the femur arising in a man with Paget’s disease of bone, at the age of thirty-two years. The onset of pain followed some months after the patient was kicked in the hip by a horse. The author admits that he has neither biopsy nor autopsy to prove his case but he presents a detailed history and physical examination and four x-ray pictures of the skull and of the femur at three different stages of the disease. He believes that the development of malignant tumors on the basis of Paget’s disease is a rarity but that it does occur, that the disease is a predisposing factor, and that patients with Paget’s disease should take pains to avoid severe trauma. There are references to the literature. [The general opinion is that sarcoma develops in at least 10 per cent of those with Paget’s disease. See, for example, Bird: Arch. Surg. 14: 1187, 1927. (Bibl.).] Benjamin R. Shore


Report of a case illustrated by photographs and roentgenograms.

LYMPHOSARCOMA, HODGKIN’S DISEASE, THE LEUKEMIAS


This is a comprehensive study of 30 cases of Hodgkin’s disease and 30 cases of lymphosarcoma, with frequent references to the findings of other investigators. The age distribution of the two diseases in the author’s series was similar, the majority of cases occurring after middle life. The sex incidence was about equal. In neither disease are the lesions confined to the lymphoid tissues. Both are protean in their manifestations and may involve any organ or tissue of the body, primarily as well as by extension or metastasis. Compression phenomena are of importance in the more advanced cases and may, as in one of the cases here reported, first call attention to the disease. In both diseases toxemia, febrile reactions, and necrotization of the lesions with secondary infection were observed. Two of the cases of lymphosarcoma and 4 of the Hodgkin’s group gave evidence of pulmonary tuberculosis, but this series does not justify the assumption of a tuberculous etiology.

The authors failed to find any essential difference in the blood picture in the two conditions. Nor does the course show much variation. A fatal termination is usual after an average duration of between two and three years. In the author’s series death was due most frequently to toxemia and multiple visceral invasion.
The author has not found any of the biological diagnostic criteria which have been suggested for differentiation of lymphosarcoma and Hodgkin's disease reliable. Even Gordon's test requires further study and confirmation [see two following abstracts].

Treatment is not curative, though palliation has been obtained, especially following irradiation, for periods of months and even years.

The conclusion is reached that Hodgkin's disease varies in no fundamental clinical characteristics from lymphosarcoma. Whatever clinical variations it may present at times are merely such as one may encounter in any disease affecting different individuals under different constitutional and environmental conditions.

Ten cases are reported in detail: (1) mediastinal lymphosarcoma or Hodgkin's disease without enlargement of the peripheral lymph nodes, first manifested by compression of the esophagus; (2) lymphosarcoma with widespread involvement of lymphatic and other tissues including the pituitary gland and prostate, with an onset suggestive of pleurisy with effusion, and death from pulmonary edema; (3) Hodgkin's disease primary in the cervical lymph nodes, invading the base of the brain and becoming generalized in spite of a course of radiotherapy; (4) lymphosarcoma beginning in the inguinal nodes, extending intra-abdominally and metastasizing, apparently by the bloodstream, to the skull and other bones; (5) Hodgkin's disease with skeletal invasion and pathologic fracture of the spine; (6) lymphosarcoma primary in the spleen with secondary paraplegia; (7) Hodgkin's disease with bronchopulmonary manifestation, severe toxemia, and symptoms due to compression of the thoracic duct, the cystic and common bile ducts, and the renal vessels; (8) primary lymphosarcoma of the stomach with a lymphosarcoma-tous tumor in the nasopharynx; (9) lymphosarcoma of the transverse colon without recurrence four years after resection; (10) lymphosarcoma of the mediastinum without recurrence three years after irradiation.

Photomicrographs are included. There is a long bibliography.


A thirty-five-year-old man gave a sixteen months' history of painless, progressive, cervical lymphadenopathy, anorexia, lassitude, and dyspnea. Examination revealed large bilateral supravacular masses of discrete glands, increase in substernal dullness, and slight enlargement of liver and spleen. X-ray examination confirmed the presence of enlarged mediastinal nodes, and biopsy revealed fibrosis, eosinophilia and Sternberg giant cells. The findings, however, were complicated by the presence of tubercle bacilli in a smear of the sputum and by the development of tuberculosis in two guinea-pigs after injection of material from the nodes. A Gordon test performed two months later from new biopsy material was positive.

The author concludes that a large percentage of cases of Hodgkin's disease give a positive Gordon test, whereas the test is negative in other lymphadenopathies. Only a positive test is of real value. [These views are more or less in accord with those presented by other authors. See, for example, Absts. in Am. J. Cancer 28: 232, 678, 1936. See also the following abstract, which describes the test.]

Two photomicrographs of the excised nodes show the typical structure of Hodgkin's disease.


The Gordon test was tried with tissue from 16 patients with Hodgkin's disease and from 30 with other varieties of lymphadenopathy. The test, consisting in the injection of a saline or broth emulsion of lymph nodes into the cerebrum of a rabbit, is positive when the animal loses weight, develops ataxia, stiffness of the legs and neck, spasticity, and has convulsions on stimulation. These signs of cerebral disease may clear up after
from two to four weeks, or paralysis of the hind quarters or even quadriplegia may gradually set in. The syndrome is neither peculiar to the rabbit nor specific for Hodgkin's disease.

The author finds that a negative test does not exclude Hodgkin's disease and that a positive one is no more than corroborative evidence. Therefore the routine tissue examination should not be neglected where the presence of this disorder is suspected.

The absence of the Gordon reaction in four types of lymphoblastoma supports the common belief that Hodgkin's disease is a separate clinical and pathological entity.

WM. H. Woglom


From an analysis of 201 cases of Hodgkin's disease treated between the years 1923 and 1934, it is concluded that deep x-ray therapy definitely prolongs life and frequently restores the patient to a more or less normal active existence in a short period of time. In no sense of the word, however, can irradiation be considered a cure for the disease. With regular observation and treatment when necessary, there is on the average a three to one hope of living for two to five years and a one to three hope of living for five to twelve years or longer. In the acute fulminating type, to which the young are especially susceptible, the patient is usually overwhelmed before treatment can have any effect. The most favorable age is the third decade, and the least favorable the first.

A. F. Watson


A white man of seventy-five years had an enlarged spleen, enlarged lymph nodes, and a white cell count of 85,800, with over 90 per cent lymphocytes, leading to a diagnosis of chronic lymphatic leukemia. At the same time the high color index and the presence of many macrocytes suggested pernicious anemia, and this diagnosis was borne out by the occurrence of achlorhydria following histamine injection, absence of vibratory sense over the lower extremities, and degenerative changes in the posterior and lateral columns of the spinal cord demonstrated at autopsy, as well as by the response to anti-anemic therapy with a rise in reticulocytes and an increase in the red cell count and hemoglobin.

Microscopically, the lymph nodes were filled with a solid mass of small lymphocytes which completely destroyed the internal structures. There was also evidence of leukemic infiltration of the viscera. Sections of the bone marrow showed lymphoid infiltration replacing to a great extent the myeloid elements.

The occurrence of these two diseases in one patient is rare and most of the reported cases are open to some objection (See Sinek and Kohn: Folia haemat. 42: 180, 1930).


The case of a sixty-six-year-old man with lymphatic leukemia and multiple squamous-cell epitheliomas is reported. Typical leukemic nodules were present on the face and arms but malignant growth was limited to the lips and cheeks. The interesting histologic feature of the latter growths was the large amount of lymphocytic infiltration in the tumors. Several photomicrographs and two photographs illustrate the report.

Benjamin R. Shore


A patient with generalized lymphadenopathy was treated by x-rays in 1918 with some regression of the nodes. No blood count was done at that time. In 1934, sixteen years later, the lymph nodes again enlarged and a blood count showed lymphatic leukemia. X-ray therapy again brought about regression. No further follow-up is recorded.

Charles A. Waltman

A patient with myelogenous leukemia and another with lymphocytic leukemia received roentgen therapy. In neither case was the white count checked during treatment. Subsequently both patients died with purpura and leukopenia. A brief bibliography is added.

Charles A. Waltman


This is a description of the case of a man aged forty-six who developed typical progressive muscular atrophy, for which he was given vigorous antiluetic treatment. A year later enlargement of the cervical lymph nodes was noticed and blood examination revealed the presence of lymphatic leukemia. The leukemia ran a rather rapid course despite two series of x-ray treatments (dosage not stated), for death occurred five months after the leukemic symptoms were first noted. A partial autopsy was obtained which revealed in addition to the usual findings of lymphatic leukemia, foci of leukemic infiltration in the spinal cord. The anterior and posterior horns, as well as in the white substance around them, were involved. There was also marked degeneration and atrophy of the anterior horns.

A photograph of the patient and five photomicrographs are included.

C. D. Haagensen


A review of the cancer situation in India is attended by such difficulties that any figures are necessarily inadequate, particularly as they apply to the female sex. Statistics are given in tabular form for Calcutta, Bombay, Madras, Ceylon, and Rangoon. From a consideration of these and of reports from other areas, the author is convinced that cancer in its different forms is unquestionably relatively rare throughout India. He believes that the average cancer mortality rate for all India will probably not exceed 20 or 25 per 100,000. The low average expectation of life, however, prevents any real comparison of these figures with those of occidental countries. On the basis of data available in 1911, the average expectation of life for all India was only 25.59 years, as compared with 46.04 years in England and Wales.

The reports from Persia are fragmentary and furnish no evidence as to the incidence of cancer in that country.


In an analysis of 9233 specimens microscopically examined during the ten-year period from 1924 to 1934, 1244 malignant tumors were found. The proportions of the various types were about the same as in a group of 1862 cases reported from the Presbyterian Hospital in New York, except that carcinoma of the uterus and of the penis were more numerous in the Puerto Rican statistics. In the latter group there were 208 uterine and 95 penile carcinomas, while in the New York group the figures were 169 and 1 respectively.

Five tables and fifteen references are included.

Edward Herbert, Jr.


This is an introductory lecture delivered in connection with a cancer symposium held in December 1934 in Puerto Rico. It stresses mainly the need for intensive cam-
ABSTRACTS

paigns among the general population as well as the medical profession in order to arrive at earlier diagnosis and a more modern understanding of the cancer problem.

Edward Herbert, Jr.


In the endeavor to convince the laity that cancer may be curable if attacked early in its course, only favorable results count. Healed patients are living proofs that the disease need not be fatal, and every woman who has remained free of recurrence for five years is urged by the Gratz clinic to relate her experience among her acquaintances. Accordingly many of these patients are now bringing in neighbors or friends, of whom not a few among those who actually have cancer are found to be still in the operable stage.

Unfortunately, however, the first evidences may not appear until the disease is far advanced, particularly in the case of carcinomas situated high in the cervix. In their earliest phases these can be discovered only by periodic examination, and it is a pity that fear or indifference keeps many a woman from taking advantage of this life-saving procedure.

Upon her discharge the patient is requested to keep in touch with the clinic through her family physician and, when finally dismissed by him, through an official bureau.

The results thus obtained in the case of uterine cancer are highly encouraging when comparison is made with other forms of malignant disease, but not so satisfactory when regarded from the standpoint of labor and expense, for the best that can be anticipated at present from a combination of surgery and radiotherapy is from 20 to 30 per cent of cures. On the other hand, it must not be forgotten that this is all pure gain, for the mortality in untreated cases is 100 per cent.

Wm. H. Woglon


The Baden association for cancer control follows the customary program of education, provision of adequate treatment, etc.

Wm. H. Woglon


This is a general discussion of the importance of organized cancer clinics in large hospitals. It is believed that with the establishment of such clinics more cancer patients will be cured, the public will be encouraged to seek medical advice early and the appalling mortality from cancer may thus be reduced.

Benjamin R. Shore


This is an account of the first year’s work of the Riverside County (California) Cancer Study Group. During the year, 119 cases were handled in the cancer clinic of the county hospital, which serves a population of about 85,000, and 68 of these were proved to be malignant. The author finds it significant for the problem facing this group that a large percentage of far-advanced cases were seen and that in several instances the possibility of ultimate cure had been lost through inadequate primary treatment.


An abstract of a discussion of cancer research.

Charles A. Waltman


This historical résumé is an interesting philosophical panorama of the 2,400-year struggle of an organized profession against the scourge of cancer. In a few pages there
is painted a graphic picture of the efforts of physicians from Hippocrates down to the present day. J. Samuel Binkley


After having recounted and discussed the milestones in cancer research, the author concludes that for all our increased knowledge of malignant disease its local extermination still remains the only available method of treatment. Wm. H. Woglom