Abstracts
Experimental Research, Animal Tumors


Strain A mice were given anesthetizing doses of urethane by intraperitoneal injection once a week for from 1 to 5 weeks, beginning when they were 6 to 8 weeks old. They were killed when 6 months old. Numerous lung tumors were found, even in the animals that had received only a single dose. Control strain mice rarely develop lung tumors when less than a year old, although the incidence amounts to 75% at 18 months. Tumors of organs other than the lungs were not found.—H. Q. W.


The water, potassium, sodium, chloride, and phosphorus content were determined in 47 cerebral, and 5 spinal tumors. Thirty-eight cerebral tumors and 26 cerebral cysts were examined to determine the amounts of nucleoprotein, phospholipid, and acid soluble phosphorus present. No consistent difference in water content between various tumors was found. Those showing a phosphate content above the average were usually necrotic tumors. A raised amount of nucleoprotein was small as was the phospholipid content. The author suggests that the majority of cysts were formed by degeneration of tumor tissue since the former had a moderate amount of nucleoprotein.—E. E. S.


The gasometric method of Van Slyke et al. was adapted to measure the absorption of fat from the gastrointestinal tract of a group of subjects. The group included 2 normal persons, 1 patient bearing gastric carcinoma, 1 who had undergone total gastrectomy, 1 with generalized atrophic gastritis, and 2 patients with hepatic cirrhosis. An abnormal absorption of fat was demonstrated only in the gastrectomized patient and in the patient with atrophic gastritis. The question is raised of a possible relationship between the absence of an intact gastric mucosa and the normal absorption of fat from the gastrointestinal tract.—J. I. M.


Observations were made on a test group of 18 patients with gastrointestinal cancer, and on 2 control groups with 4 patients in each, the preoperative preparation in all cases being the same. A small specimen of the liver (0.8 to 1.5 gm.) was removed at operation and analyzed chemically for glycogen and for total lipid; a part of it was also studied histologically. Values for total protein, and for “albumin” and “globulin” in the liver were also obtained in 12 of the cases, and in these the serum protein levels were also studied.

The recorded figures indicate that there was frequently more fat in the liver, as determined chemically, in patients with gastrointestinal cancer than was the case in the control patients in which there was no hepatic involvement; yet the histological analyses revealed that only 2 of the liver specimens from patients of the test group showed moderate fatty infiltration, the rest appearing normal although some contained even larger amounts of total fat, as determined chemically, than the 2 specimens with visible fatty infiltration. The figures for liver glycogen were about the same in the patients of the test and control groups, but the authors consider that there was probably glycogen depletion in the cases of gastrointestinal cancer. No relationship could be found between the concentration of protein in the serum and in the liver of patients with gastrointestinal cancer.—J. G. K.

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Glucose, lipiocay, choline chloride, or inositol were administered preoperatively to 37 patients with gastrointestinal cancer, and to 12 patients with benign gastrointestinal lesions. At operation, specimens of the livers were procured and analyzed chemically for glycogen and for total lipid; total protein was also determined in some instances.

The findings are recorded in 9 tables, each of which contains data on from 2 to 11 patients; for comparison the results in 26 patients untreated preoperatively are likewise tabulated. The recorded figures indicate that the preoperative oral administration of glucose to patients with gastrointestinal cancer, common bile duct obstruction, or benign gastrointestinal lesions significantly decreased the concentration of fat in their livers, without affecting notably the concentration of hepatic protein. Patients with gastrointestinal cancer who had received lipiocay before operation likewise had less fat in their livers than was present in the specimens from other patients with gastrointestinal growths who had not been treated preoperatively. Patients given inositol preoperatively had livers containing comparatively little fat, as determined chemically, while others given choline provided specimens with rather more fat in general than was present in the specimens from the other treated patients, though rather less than the quantity found in the livers of untreated cases.

None of the substances administered preoperatively seemed to influence the total protein level of the livers, and lipiocay did not seem to affect significantly the concentration of liver glycogen. The administration of glucose increased the hepatic glycogen stores significantly only in patients with benign gastrointestinal disorders.—J. G. K.


Ninety-seven patients with gastric carcinoma were studied. It was found that in 59% the concentration of serum protein was below 6.6 gm. per cent and that 20% of patients were anemic. The hypoproteinemia was due to deficiency of serum albumin alone in 73% of those with low serum protein. A comparison of the data for normal individuals and for patients with gastric carcinoma, benign gastric lesions, and oral leukoplakia showed no correlation of hypoproteinemia or anemia with economic status, age, or diet. Bleeding from the gastrointestinal tract had no significant influence on the percentage of hypoproteinemia and anemia in gastric cancer, and 10 patients with cancer of the stomach excrrected normal amounts of nitrogen in the stools. Among 12 patients on whom resection of a gastric neoplasm had been performed, none had hypoproteinemia, and 25% were anemic.—W. J. B.


Because of the high percentage of patients who develop hypoproteinemia with gastric cancer, the authors have studied the absorption of amino acids from the gastrointestinal tract by means of the glycine tolerance test. In 5 patients with adenocarcinoma of the stomach and 1 with squamous cell cancer of the terminal esophagus, the peak of amino-acid-nitrogen levels occurred during the second hour and 5 of the peaks were higher than the greatest value in the control group. This peak occurred during the first hour in 5 of 6 patients with neoplastic disease of the extremities and in 2 of 3 patients with benign lesions of the stomach. In 1 case of the latter group a peak of absorption occurred during the first hour with a secondary higher rise during the third hour. After gastric resection in the 3 cases of gastric and esophageal neoplasms and Boeck's sarcoid respectively, the peak of glycine absorption was reached in the first hour. It is felt that altered motility, or some metabolic disturbance, or both, resulting in delayed absorption of amino acid, contributes to the high incidence of hypoproteinemia in cases of gastric cancer.—W. J. B. (See abstracts Cancer Research, 4:201; 262. 1944.)


The absolute oxidative response to the addition of M/20 succinate or p-phenylenediamine was studied in normal tissues of rabbit, rat, and man, and in neoplasms of the latter two species.

Thin slices or fine minces of fresh tissues were examined by means of the Warburg technic. A criterion, the critical rate of oxygen consumption, was introduced to serve in the objective evaluation of "maximal" oxygen consumption rates that can be measured with the types of preparations employed. The manometric studies were accompanied by histological examination of the material. To correct for the variable factors of inert tissue mass and storage substance, the protein-bound phosphorus content of the tissues was used as a standard of reference for the quantitative data.

The following results were obtained:
1. Normal epithelial tissues fall into two main groups: (a) tissues with high oxidative responses towards succinate or p-phenylenediamine (kidney cortex, liver, brain cortex, and probably smooth and striated muscle); (b) tissues with low responses toward the 2 test substrates (gastrointestinal mucosa, lung, and possibly skin, mammary gland, and lymphatic tissue). The position of the submaxillary gland is intermediate between the two main groups.
2. Benign and malignant rat tumors as well as human cancers show remarkably uniform oxidative responses of a low order of magnitude, similar to that found in normal group (b).

It follows that changes of the oxidative behavior incident to a malignant transformation can be expected to...
occur only in types of tissue belonging to normal group (a). Within this group, the divergence of the oxidative behavior from that of the parent tissue should serve as an objective criterion of the degree of dedifferentiation of neoplasms. With the method of evaluation here suggested the examination of the response to succinate alone would fulfill this purpose. It is pointed out that the method of Craig, Bassett, and Salter, who utilize the per centile oxidative responses to succinate (M/50) or p-phenylenediamine (M/100) in a glucose medium as a standard of comparison, cannot be considered a reliable index of the activities of the succinic dehydrogenase or of the cytochrome system.—Authors’ abstract.


In some species the aging of an animal is accompanied by a definite increase in the non-heme iron content of the tissues. Estimations of non-heme iron in the kidneys of mice of 2 high-mammary-cancer strains (RIII and C3H) and 1 low-mammary-cancer strain (CBA) were made with a view to detecting differences in physiological age between high- and low-mammary-cancer mice at the same chronological ages. No such differences were found. Female mice of the CBA strain showed a considerable increase in kidney non-heme iron between 300 and 400 days of age. With this exception no great difference was found between young and old mice of either sex in any of the mice investigated.

The great increase in the non-heme iron content of the tissues of old rats was confirmed for both sexes. The non-heme iron content of the kidneys of old female rats was higher than that of the kidneys of old male rats to a highly significant extent.—Authors’ summary.


Blood hemoglobin was estimated in both sexes of 2 strains of mice. In both strains (CBA low-mammary-cancer; RIII high-mammary-cancer) the concentration of blood pigment was higher in female mice than in male mice at all ages. Female mice of the RIII strain showed a rapid fall of blood hemoglobin between the ages of 360 and 430 days. This fall amounted to about 10% of the blood pigment initially present and occurred at the age at which spontaneous mammary carcinoma normally begins to appear in female mice of this strain.—Authors’ summary.


Nineteen cases of primary carcinoma of the liver were encountered in 17 of approximately 2,000 NHO mice that had been given a subcutaneous injection of 1 mgm. of methylcholanthrene dissolved in 0.1 cc. of sesame oil at the age of 2 months. The animals had been selected on a genetic basis as being resistant to the induction of tumor at the site of injection. No hepatic tumors were found in 2,000 unselected NH mice treated in the same way with methylcholanthrene. The author concludes that hybrid mice, such as those of the NHO descent, are endowed with the capacity to give rise to a great number of tumors of various parts of the body following the subcutaneous injection of methylcholanthrene, but that these tendencies can be detected only when the development of tumors of such types as fibrosarcoma, rhabdomyosarcoma, and epidermoid carcinoma at the sites of injection are eliminated or suppressed by genetic selection.—J. G. K.


Triphenylethylene (3 mgm. in sesame oil sub cutan weekly) were given from the age of 4 to 5 weeks until death. The results were as follows:

Incidence of testicular tumors.—(1) Normal “white label” (Kreyberg) and IFS mice. An increase in the size and number of interstitial cells, and late in the experiment (60th to 100th week) a small number of non-metastasizing interstitial-cell adenomas and carcinomas. (2) RIII males. Atrophy of the testes and a high rate of mammary cancer (15 cancers in 24 mice). (3) RIII males fostered by CBA females. Great reduction of mammary cancers allows longer survival. Of 38 mice living for 50 weeks or more, 14 showed unilateral or bilateral testicular adenomas or carcinomas. (4) RIII males fostered by Strong A females. One-half of the mice developed mammary cancer; 7 bore unilateral or bilateral testicular adenomas or carcinomas. The numbers available do not allow a comparison of the effect of foster nursing by Strong A, or by CBA females, on the appearances of testicular tumors. (5) CBA mice fostered by RIII females. A high incidence of mammary cancer; often some hyperplasia of interstitial cells but no tumors. (6) Strong A mice, whether suckled normally or by RIII females, showed a high incidence of malignant interstitial-cell tumors (e.g. 8 in 9 mice).

Incidence of mammary cancer.—(1) “white label,” 45%. (2) IFS, nil, but when fostered by RIII, tumors occurred in breeding females and estrogen-treated males. (3) RIII. Fostering by CBA reduced the incidence in estrogen-treated males from 62.5% to 4.3%. The incidence after fostering by Strong A was lower and later than in normal RIII (? difference in milk factor). (4) CBA. Fostering by RIII raised the incidence in males from 0 to 77%. (5) In contrast to (4), Strong A females fostered by RIII gave no tumors. (6) Triphenylethylene caused a somewhat higher incidence in castrated than in normal Strong A males.

‘Pelvic organs.”—A comparison of the “pelvic organs” in the various classes of mice showed less keratinization where interstitial-cell hyperplasia or tumors developed, the differences being due presumably to androgen secreted by this tissue.

The histology of the tumors and of the adjacent lymph nodes is described and illustrated by 14 microscopic photographs. An interstitial-cell carcinoma in a Strong A male was successfully grafted into a normal female and into estrogenn-

Uterine and other abdominal fibroids induced in the female guinea pig by the prolonged action of subcutaneously implanted tablets of estradiol can be prevented by progesterone, even when the antifibromatogenic steroid is allowed to act only intermittently.

These findings support the concept that the rhythmic secretion of progesterone in the ovary is a means of bodily autodfense against the toxic and tumor-producing reactions of estrogens. —Authors' summary.


Progesterone and desoxycorticosterone acetate (DCA) are antifibromatogenic substances in that they neutralize the fibromatogenic effects of estrogens. Progesterone and DCA tablets were introduced into the spleen, that is, made to drain directly into the portal circulation. Using the fibrous tumorous effect (F.T.E.) as an index, it was found that these substances were inactivated by the liver. Observations also showed, however, that above a certain dose a portion of the hormone escapes inactivation. —Author's abstract.


Grasshopper eggs were irradiated at various developmental stages at temperatures of from 1 to 3°C and after dehydration. Lower temperatures decreased sensitivity before the third day of pre-diapause development and increased sensitivity after the third day of pre-diapause and the first 2 days of post-diapause. Dehydration caused an increase in sensitivity after the fifth day of pre-diapause development and a decrease in sensitivity during the remainder of pre-diapause and on the second day of post-diapause. Apparently low temperature modifies the oxidative mechanisms, and dehydration alters the osmotic relations of the cells to the fluids bathing them. Radio-sensitivity may be modified in opposite directions by the same modifying agent at different stages of development. —R. E. S.


A study was made of the effects of small doses of roentgen radiation applied to the whole bodies of C3H mice. The radiation factors were: 200 kv., 20 ma., 0.5 mm. Cu + 1.06 mm. Al filter, 105 cm. distance, 8.0 r/min. intensity; 50 r total dose. Thirty-nine animals were used. Blood counts were made, and tissues were obtained at intervals of from 1 hour to 14 days after irradiation.

A transitory leukopenia was present from 2 to 4 hours after irradiation. This was followed by a slight leukopenia, which persisted for at least 2 weeks. In the lymph nodes and spleen debris appeared in 2 to 4 hours: this soon disappeared, and at 8 to 12 hours a mild hyperplasia developed. Changes in bone marrow were slight but suggested that some immature cells had been destroyed. The seminiferous tubules of the testis showed a significant reduction of spermatogonia and primary spermatocytes at 1 week, and of secondary spermatocytes at 2 weeks. Regeneration took place, and the tubules appeared normal again in 4 to 6 weeks. —H. Q. W.


A study was made of the effect of roentgen ray doses of 50, 100, 200, and 400 r delivered to the whole bodies of C3H and LAF1 mice and pure bred National Institute of Health guinea pigs. Roentgen factors were the same as those employed in the previous study (J. Nat. Cancer Inst., 4:477. 1944) except that distances were decreased and the guinea pigs were cross-fired from 2 beams. Thus intensities of 38 r/min. were used for the mice and 71 r/min. for the guinea pigs.

It was found that the three types of animals differed considerably in radiosensitivity, the approximate lethal doses being—guinea pigs, 200 r; C3H mice, 450 r; LAF1 mice, about 600 r. The changes seen in leukocyte count and in the microscopic appearance of lymphoid tissue, spleen, bone marrow, and testis were of the same type as those found in the previous study, except that, with the higher doses, the changes were more pronounced and recovery was slower. It appeared that, in all the tissues, the intermediate type cells were destroyed. Later regeneration in each series started from the stem forms, which appeared more radioresistant than the intermediate forms. —H. Q. W.


Massive doses of roentgen rays were delivered to the whole bodies of C3H mice, guinea pigs, and rabbits. The
The definite spectroscopic identification of protoporphyrin and other porphyrins in the exudates removed from the region of the cervix of the uterus lends support to the hypothesis that porphyrins may sensitize cells to carcinogenic stimuli. —Author’s abstract.


The red-fluorescent material observed on the genitalia of women was collected, extracted, and identified. The data on the solubility and spectral absorption showed conclusively that the red fluorescence was related to the presence of porphyrins. Most of the porphyrin removed from the cervix was a mixture of mesoporphyrin, deuterporphyrin 9, and coproporphyrin (probably type III); only 5% of this was protoporphyrin 9. Most of the porphyrin in the lochia was found to be coproporphyrin (probably type III). Only a relatively small amount of mesoporphyrin and deuterporphyrin was present in lochia, about half of the porphyrin in lochia was protoporphyrin 9.

While the observations lend support to the hypothesis that the red-fluorescent material is one of the causative factors in the development of malignancy, no proof of this was obtained. The significance of these observations and direct proof or disproof of such an etiological relationship is left for future investigation. —Authors’ abstract.


The examination of numerous birds, reptiles, and mammals showed that red-fluorescent harderian glands were present only in mice, rats, and hamsters. The data in the literature indicated that of all the animals that have been tested, these three species are the most susceptible to induction of tumors by carcinogenic agents. Since the red-fluorescent porphyrin-excreting harderian gland reflects the porphyrin metabolism of other organs and tissues, a relationship between excess porphyrins (or a unique porphyrin metabolism) and susceptibility to carcinogenic agents is postulated. Protoporphyrin 9 and coproporphyrin I are the specific porphyrins excreted by the harderian glands.

When porphyrins were injected into the peritoneal cavity of rats, these substances soon became concentrated in the skin and subcutaneous tissues and the harderian glands. A study of the ultimate fate of the porphyrins excreted by the harderian glands showed that they are smeared on the areas of the skin of mice and rats where tumors develop when these animals are irradiated with ultraviolet light. Here, too, the only animals that have been found to be susceptible to the induction of tumors by ultraviolet light are the mice and rats, which have red-fluorescent (porphyrin-excreting) harderian glands. These data support the original hypothesis that there is a direct or an indirect relationship between porphyrins or porphyrin metabolism and cancer susceptibility. —Author’s abstract.


The genitilia of 121 women were examined for fluorescence in near ultraviolet light. The clitoris was red-fluorescent in 40 cases, the labia minora and majora in 16 and 13 cases respectively. Red-fluorescent secretion or exudates were observed in the vagina in 12 and on the cervix of the uterus in 11 women. When red-fluorescent material was observed on the vulva, it was always most concentrated on and near the clitoris. Red-fluorescent material was also found in the region of the corona of the glans penis in uncircumcised males. The genitalia of some women are intermittently red-fluorescent. Red fluorescence was observed most often during the menstrual or postmenstrual phase of the cycle. Putrid lochia is intensely red-fluorescent, and the fluorescent material may persist for a month or two. The occurrence of red fluorescence was not definitely related to any organic disease.

An attempt was made to discover the source of the red-fluorescent material. Most of this was thought to arise from the bacterial or histolytic decomposition of blood which exudes from the uterus. Some evidence points to a direct bacterial or glandular (cervical or sebaceous glands) origin of the red-fluorescent material. The possibility of a relationship between cancer incidence and the occurrence of red-fluorescent secretions or exudates was discussed.

While the observations lend support to the hypothesis that the red-fluorescent material is one of the causative factors in the development of malignancy, no proof of this was obtained. The significance of these observations and direct proof or disproof of such an etiological relationship is left for future investigation. —Authors’ abstract.

Under the conditions of the experiment, 0.5 cc. M/10 glyceraldehyde injected subcutaneously into mice twice weekly for the 16 weeks during which tumors from a previous injection of 0.7 mgm. benzyrene were to be expected, resulted in a delay in the appearance of tumors and a slight reduction in the tumor yield. This effect was essentially similar whether “fresh” (dimeric) or “old” (monomeric) glyceraldehyde was used and resembles the inhibition, previously recorded in a comparable experiment, in which propionaldehyde was employed. It remains to be determined whether differences of this magnitude are significant.—Authors’ summary.


Tissue cultures of human mammary carcinomas, rat lymphosarcoma, and their normal prototypes were exposed to various concentrations of heptanal sodium bisulfite methylsalicylate and 2,4,6-trimethylpyridine. Heptanal in a concentration of 0.002 M destroyed the malignant epithelium of the human carcinoma, while its normal tissue prototype and the fibrocytes and wandering cells in all the cultures were unaffected by a concentration of 0.007 M. Mouse mammary carcinoma epithelium showed a similar but somewhat less specific reaction. The action of heptanal on rat lymphosarcoma was highly selective and gave a differential between normal and malignant cells that was even greater than in the case of human mammary carcinomas. Trimethylpyridine exerted a similar, but less pronounced effect on cultures of human and mouse mammary carcinomas.—Authors’ abstract.


Five highly malignant tumors that had been carried by transplantation for 6 months or more, each in a different strain of mice, were used for the inoculation experiments. Two of the tumors were lymphosarcomas, 1 was a lymphoma, and 2 were mammary carcinomas. Thus far one of the tumors has been successfully cultivated in the yolk sac of the chick embryo. This tumor is a highly undifferentiated mammary carcinoma originating in C3H strain mice and carried in C3H F1 hybrids. Emulsions of tumor from the yolk sac grew readily when implanted into the strain of mice from which the tumor originated. The tumor has been successfully transferred from yolk sac to yolk sac.—J. L. M.


Data on the diffusion, sedimentation, density, viscosity and electron micrography of the Shope rabbit papilloma virus, given by Sharp, Taylor, Beard, and Beard (Proc. Soc. Exper. Biol. & Med., 50:205. 1942) and by Neurath, Cooper, Sharp, Taylor, Beard, and Beard (J. Biol. Chem., 140:293. 1941) are treated according to the appropriate formulas of Markham, Smith, and Lea (Parasitology, 34:315. 1942) to give conclusions as to the size, shape, and degree of hydration of the agent, which are summarized as follows:

The virus is spherical or nearly spherical. Unhydrated it has a diameter of 48 mÅ and molecular weight of 47 million. In solution it hydrates to the extent of 1.8 gm. water per gm. of unhydrated virus, causing its diameter to increase to 73 mÅ, its molecular weight to 136 million, and its partial specific volume to 0.916.—A. H.


Bisection of a squamous cell carcinoma on the back of a hand in a human patient with production of a cutaneous defect adjacent to the portion of the tumor remaining in situ revealed: (1) lack of stimulation of the carcinoma along the incised margin; (2) healing of the cutaneous defect from the normal skin borders, with no evidence of retention of purposeful (healing) proliferation in the malignant epithelium; (3) lateral spread of the carcinoma continued at the margins of the growth that were undisturbed by operative trauma.—Authors’ abstract.


All of 25 brook trout (Salvelinus fontinalis), most of which came from a single hatchery, had neurilemmomas that involved primarily the autonomic nervous system. Only 1 of 16 fish of 3 other species was similarly affected. Seven figures illustrate the changes, which were principally microscopical.—J. G. K.


In studies of bovine pyeloephritis, abnormal growths were found in the bladder in 2 cases. The neoplastic tissue was composed of mucin-producing, columnar epithelium, which did not infiltrate.—J. G. K.

Multiple Primary Tumors in Dogs. MULLEKAN, R. M. [Univ. of Colorado, Sch. of Med., Denver, Colo.] Cancer Research, 4:505-509. 1944.

A review of the literature revealed 46 cases of multiple canine neoplasms. The ages were known in 36 dogs: 2 were less than 6 years old, 4 were 6 to 9 years, 29 were 10 to 20 years, and 1 was more than 20 years old. Of 43 animals in which sex was mentioned, 23 were females and 20 were males. In 37 dogs the breed was known: 8 were pinschers of various types; 7 were fox terriers; 5 were dachshunds; setters, St. Bernards, puddles, sheep hounds, and shepherds accounted for 2 each; and pointers, Dobermans, boxers, bulldogs, hunting dogs, spaniels, and terriers were represented by 1 each. The 123 tumors found in the 46 cases included 58 malignant and 65
benign neoplasms, among which were 36 carcinomas, 21 sarcomas, 14 adenomas, 11 leiomyomas, 9 fibromas, 9 lipomas, 5 hemangiomas, 4 mixed tumors, 4 cysts, 3 papillomas, 3 cystadenomas, and 1 each of mesothelioma, fibrolipoma, epulis, and melanoma. The main primary sites of these neoplasms included the mammary, subcutaneous tissue, skin, liver, circumanal glands, testes, thyroid, stomach, vagina, lungs, prostate, spleen, bone, buccal cavity, omentum, uterus, ovaries, small intestine, urinary bladder, and gall bladder. The combinations of malignant and benign neoplasms encountered in the 46 cases were tabulated.—Author's abstract.


The author divides his discussion of the process of parental influence in relation to incidence of cancer into three main sections. In the first, the different mechanisms (chromosomes, cytoplasm of germ cells, nursing, etc.) by which parents may influence the development of their progeny are discussed. The nature of cancer and the various levels from which the development in the life of the individual at which the incidence of cancer may be affected or influenced forms the second part of the discussion. Lastly, the experimental evidence derived from animal studies in the specific fields of cancer research is briefly reviewed.—M. E. H.


The author presents a brief review of some aspects of cancer research in the past and various theories of the cause of cancer.—E. E. S.

Clinical and Pathological Reports


Analyses of various statistics have indicated that death rates for married and single women are affected by social status, but within each social class, cancer of the breast causes more fatalities among single women, while the death rate from uterine cancer is higher among married women. The total mortality from the two combined is not determined by marital state. Australian statistics gathered between 1919-1923 reveal the highest death rate from cancer for both sexes to be among married persons without children. With the exception of breast and uterine cancer the mortality rate for tumors of various sites varies little with marital status.—E. E. S.

Diagnosis—General


The technic of demonstrating the clotting of a patient's blood in his own urine (Robertson test for carcinoma) is described. A report is given of tests made on 46 patients in whom the diagnosis of malignant tumor was either established or ruled out. A positive test of clot formation was obtained in 12 instances, 11 of which were associated with malignant tumors. Eight studies gave doubtful results; 4 of these were on patients with tumor. Twenty-six tests were negative, although 8 of these were on patients with malignant tumors.—E. E. S.

Therapy—General


A review article published also in the Medical Progress Annual series. A chart shows the curability rate for various types of cancer. There is a bibliography of more than 200 titles.—C. W.


The author reports 2 cases of inoperable sarcoma treated by Coley's method. One patient remained well for about 9 years, dying of a disease not associated with new growth. The second patient is well 19 years after treatment. The author states that the toxines have the advantage of acting in generalized tumors when there are distant metastases that could not be reached by x-ray or radium.—A. Col.

Skin and Subcutaneous Tissue


A general discussion.—W. A. B.


The patient, a girl aged 20, developed a slight acne eruption on the face 4 years ago. She "could not help picking the lesions and some secondary infection and scarring developed on the nose." During treatment with lotions and sedatives, "she developed within 6 weeks an epithelioma about the size of a silver threepence on the right temple." There was no evidence of a preexisting mole. In the discussion Dr. J. H. Sequeira recalled similar cases at the ages of 11 and 18.—E. L. K.


The more frequent use of roentgenography and pneumoencephalography is recommended in cases of epilepsy to establish the diagnosis of this neurocutaneous syndrome, even in the absence of adenoma sebaceum.—M. E. H.


A general discussion.—W. A. B.
Experimental Research, Animal Tumors


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