CASE HISTORIES

Allergy of the Plastic System

To illustrate a few of the practical features of the treatment several case histories are submitted. Some of the first cases of malignancy treated in 1919 are still alive and well. Those that have died in the meantime (years after the last glyoxylide treatment) did not die of cancer. Autopsies demonstrated the cause of death to be injury through skull fracture, senility, heart failure, or pneumonia. In the meantime many physicians have used the treatment with a recovery percentage ranging from twenty to over eighty per cent in advanced malignancy cases. The recovery percentage depends upon the recovery advantage the patient presents, the reasonableness of his co-operation, and the good judgment used by the physician, as well a upon the efficacy of the remedy itself.

The usual allergies and infections respond more rapidly than malignancy. Severe cases of shingles are often relieved in three hours and recover in a few days. Although psoriasis may recover completely in fourteen weeks, it may require a year or longer. So long as recovery is in progress from one dose it is not repeated and may prove sufficient. On the cases here reported in accordance with our general rule, no therapeutic measure was employed along with the glyoxylide or malonide. Except as otherwise stated the glyoxylide was prepared from the sulphonic acid derivatives of ethyl ether, glucosė and fructose phosphoric acid derivatives.

Cancer of the Breast

Mrs. M.—Age 36.

Family History—Father's death may have been from cancer. No tuberculosis in family.

Past Illnesses—Persistent tonsilitis. Tonsils removed twice, headaches, and dizzy spells.

Present Illness—Started seven years ago, 1929, as lumps in both breasts. The right breast gradually cleared up, but the left breast increased in size through increase in the tumor. Examination by a cancer surgeon of wide reputation was made on January 4, 1935. It was so far advanced, infiltrated, and metastasized that he gave a diagnosis with full certainty from the gross pathology and refused to attempt any help because it was too far advanced. She then went to an escharotic institution where the attempt to remove it was made. Only an incomplete destruction was accomplished and it soon returned. A second attempt with escharotics was made in July, but only added to an aggravated recurrence and spread over the chest wall and throughout the axilla and above the clavicle. There was backache indicative of spinal metastases.

Two malonide treatments were given three days apart and recovery was completed before June, 1937, when examination revealed full absorption of all growths and full healing with also a good return of general health. She remains well.

In this case a low grade malignancy was aggravated by chemical stimulation of the escharotic. The recovery response was rapid in keeping with the general rule that the recovery rate is proportional to the rate of growth.

Cancer of Uterus

Mrs. T.—Age 31. Squamous cell carcinoma of cervix uteri. Biopsy confirmed by three different pathologists. Report reads: "Sections show an atypical proliferation of squamous epithelial cells which have markedly infiltrated the underlying tissues. Diagnosis —Squamous cell carcinoma (Epithelioma)." Surgically inoperable, invading body of uterus and adnexia. Severe hemorrhages and pain, cachexia, no children, one miscarriage. Treated with two doses of glyoxylide solution, one cc each, two weeks apart, August, 1923. Recovery followed with complete restoration of uterus in one year. Four healthy children born since. Perfect health remains.

Toxic Goitre and Cancer of the Stomach

Mrs. W.—Age 58. History taken, September 25, 1927.

Family History.—No cancer recognized in ancestory. Husband died of Cancer eight years previously, daughter, age 28, had brain tumor cured by glyoxylide. Her home, in the goitre belt of Ohio.

Present Illness.—Started several years previously as steadily increasing nervousness, circulatory weakness perspiring, loose bowels, and tremor. Radiographs showed enlargement of the heart, in 1927. Exophthalmus became quite noticeable and increased, the skin bronzed and gastric symptoms set in. Loss of weight from 150 pounds to 108 took place while the feet and legs became œdematous, and the head and neck veins engorged with blood, showing obstruction to the venous return to the heart, percussion showed marked in-

Mrs. T. and her three children which were born after recovery from extensive cancer of the uterus. Diagnosis made by physical examination, the history of the case, and confirmed by microscopic examination of specimen removed from the growth. Specimen was reviewed by other pathologists to confirm correctness of original diagnosis. Treated 15 years ago, now has four children and is in perfect health.

crease in the mediastinal density. On her visit to my clinic her chief complaint was severe pain in the right lower ribs and epigastrium. Examination revealed a large bulging mass somewhat lobulated bulging from the epigastrium and the right hypocondrium. There was also a walnut size mass in the left supraclavicular space. Stools showed occult blood, there was vomiting and great weakness.

Treatment.—One cc. of glyoxylide was given September 28, 1929. Recovery was steady with regular three week reaction periods showing some chills and fever. Complete recovery was established by her sixtieth week. The photographs show recovery from the exophthalmus. The first one was taken before treatment, and the second on June 18, 1933. Her health is perfect still she reports.

Cancer of Testis

Mr. T.—Age 38. Medullary carcinoma of testis, recurrent after two operative attempts at removal. Biopsies done at these operations confirmed diagnosis each time. The last biopsy report reads: "Carcinoma probably secondary to previous carcinoma of testis as the cells were histologically similar." Recurrences involved scrotum, abdominal wall and structures of lower abdomen. Patient weak, cachetic. Treated once, June 10, 1925. Recovery complete in six months and has remained well ever since. Is very hardy and strong.

Cancer of Larynx

Mr. M.—Age 58. Treated once, November, 1928. Diagnosis confirmed microscopically by two different

Mrs. W. before treatment showing typical exophthalmus from toxic goitre reported in this series.

Mrs. W. showing recovery after the antitoxin.

pathologists. "Squamous cell carcinoma of larynx showing many epithelial pearls." Involvement, vocal cords and cervical glands extensively. Voice and breathing impaired. Recovery complete within six months. Remains well. The peroxide of formaldehyde was the source of the glyoxylide in this case.

Mrs. C. with baby born three years after recovery from very advanced cancer of the uterus, adenocarcinoma microscopically. In this case the whole pelvis was solid with the growth and the uterus seemed mostly eroded away. Patient could not walk, cachexia was advanced and she was bedfast. All parts are perfectly reconstructed and she and the baby are perfectly normal.

Mrs. F. and child. Mother had complete diagnosis of cancer and judged far advanced and inoperable 10 years ago, completely cured by one dose of glyoxylide 9 years ago.

CANCER OF STOMACH

Mrs. P.—Age 61. Treated twice, two week intervals, November, 1919. Massive carcinoma of stomach widely infiltrated and metastasized causing complete obstruction of pyloris. Diagnosis confirmed at laparotomy. No biopsy made, or needed. Patient emaciated, bedfast. Two weeks after treatment growth considerably absorbed and pyloris opened up permitting

Mrs. P. and two children born after recovery from generalized melanotic cancer recurrent after two operations and involving liver, stomach, uterus and pelvis generally, causing apparently great destruction of uterus. All have perfect health.

passage of food. Thereafter recovery rapid. Patient remains well to date. Excellent health. Cephaline fraction of heart muscle extract was used as source of glyoxylide in this case. Reported in Medical Record, October, 1920.

CANCER OF STOMACH

Mr. R.—Age 69. Treated once, August, 1926. Medullary carcinoma of stomach. After gastroenter-

ostomy, to relieve pyloric obstruction, the neoplasms spread extensively, completely closing the new opening. Diagnosis confirmed by biopsy. Biopsy report:

"*Microscopic Examination:* Small alveoli combined with a diffuse growth of atypical proliferating epithelium form the structural picture of this neoplasm. The epithelial cells are generally polydecral or round in shape, with large hyperchromatic nuclei. One portion is necrotic—a superficial ulceration. This may be classified as the diffuse type of gastric carcinoma. I am unable to determine this point exactly as it is necessary to know something of the gross appearance. If there were extensive involvement of the wall, this would be the correct interpretation. If the growth were sharply defined, rounded and ulcerating, it would be placed with the circumscribed types of carcinoma simplex.

"This type is always infiltrating and early invades the lymph nodes with widespread metastases.

"*Diagnosis:* Carcinoma of the stomach. (Type dependent upon the gross pathological anatomy.)"

Bulging mass fist size when treated August, 1926 with one cc. of glyoxylide solution. Recovery complete in six months. Natural opening at pylorus now functioning, but gastroenterostomy healed shut. Remains well and vigorous at age 80 years.

Cancer of Rectum

Mr. M.—Age 44. Terminal case of adenocarcinoma of rectum. Biopsy before surgery and radiation reads: "Polypoid adenocarcinoma. It is of course impossible to state how deeply this is infiltrating or how extensive it is."

Biopsy after failure of these methods reports:

"The specimen represents a fungoid type of growth which is soft in consistency. Two sections are saved.

"The tissue in all parts of the fields examined exhibits an actual diminution of the supporting tissue and an increase of the epithelial structures. The gland epithelium as well as the gland morphology are abnormal, a marked productive change has occurred. The new growth material is distinctly anaplastic and differentiation is not good for rectal tissue. The stroma is infiltrated with small round cells, the tissue resistance is poor and the growth activity is marked.

"Adenocarcinoma of the rectum, *Active.*"

When treated with Glyoxylide, October, 1922, patient practically bedfast, cachetic, edematous. Blood picture twenty per cent of normal. Rectovesicular fistula. Feces pass through penis. Considerable bowel obstruction. Putrid drainage, bleeding. Incontinence, massive metastasis in abdomen and liver. Two treatments of glyoxylide at two week interval resulted in complete recovery. In very good health in one year and remains in very good health today.

Sarcoma of Bone

Mrs. S.—Age 35. Treated June, 1935. Osteosarcoma of right ilium confirmed by biopsy. No attempt at surgical removal. Metastasized generally throughout abdomen and lungs, as large masses. Cachexia extreme, dyspnoea, cyanosis, cardiac exhaustion, bedfast. Recovery required one year. Remains well.

Cancer of Breast

Mrs. S.—Age 51. Sister died of cancer of the breast. Present illness started as a tumor under right

arm when seventeen years old. Did not trouble until 1927, when it started to grow and pain her. Radical removal of breast was made in November, 1927. Recurrence about operation incision and in the axilla and above the clavicle was well advanced as numerous growths ranging from pea size over the chest wall to egg size axillary growths when presenting herself in September, 1929. There was also a metastasis in the lower end of the right femur. Treatment, malonide solution was injected in upper arm; and recovery followed steadily and was completed within nine months. Reports at present confirm completeness of recovery.

Primary Cancer of Bronchus

Mr. W.—Age 46. Treated in March, 1931. Diagnosis by bronchioscopy, far advanced dyspnœic emaciated. Unable to walk at time of treatment. Lungs and liver greatly involved. One treatment of Glyoxylide was followed by complete recovery within one year. Perfect health ever since. Doing hard labour.

Cancer of Prostate

Mr. B.—Age 68. Enormous cancer of prostate and urinary bladder with groin and abdominal metastasis. Diagnosis confirmed by biopsy by two different pathologists. Treatment given October, 1927 and June, 1928. Recovery complete within six months after second treatment. Remains well. No more pathology, good strength, normal function, and reconstruction. Potassium salt of glyoxylic acid used as source of Glyoxylide in this case for the first dose. Two cc. of a dilute solution of Ketenes was the second dose.

Cancer of Stomach

Mrs. H.—Age 47. Duration two years. Symptoms of vomiting and hemorrhage, rapid growth of tumor to a large hard bulging mass filling the region above umbilicus. Hemoglobin 80 per cent. Jaundice, marked chachexia. Radiograph demonstrates involvement of lesser and greater curvatures from pylorus to cardiac portion. One cc. of solution of Glyoxylide injected subcutaneously in arm October, 1934. Recovery with several reactions at three week periods was completed in a year. Normal in every respect. No pathology at present. Peroxide of formaldehyde was source of Glyoxylide in this case.

Cancer of Palate

Mr. J.—Age 60. Cancer of hard and soft palate. Recurrent after removal surgically. Biopsy confirmed squamous cell carcinoma. Nine small growths up to a lima bean in size. Glands under jaw enlarged and infiltrated. One cc. Glyoxylide solution given December 3, 1932 was followed by steady recovery within six months. Remains well.

Malignant Glioma of the Eye

Baby R. L.—Age three years and six months. First observed by me November 21, 1935. Right eye was removed May, 1935 for rapidly developing glioma.

The removed eye showed the following:

Gross Pathology: Eyeball having a normal external appearance. On section, the posterior chamber is practically filled with a greyish friable tumor mass

which seems to be attached to the region of the nerve head.

Microscopic Pathology: Section of tumor shows rounded dark staining nuclei of cells practically devoid of cytoplasm set in a thin connective tissue stroma having no characteristic arrangement. Marked necrosis is present in some areas and round cell infiltration may be seen in some areas. Section of nerve head shows no tumor tissue.

Pathological Diagnosis: Glioma of retina.

In November, 1935 the other eye was found to be similarly affected. Surgeon advised that its removal would be useless and patient was referred for a dose of Glyoxylide. At this time pains were a prominent feature, eye was red, pupil dilated and apparently paralyzed. Visual field was diminished by one quarter its area, and the neoplasm was visible as a mass about the size of a bean. Malonide was given November 25, 1935 and August 18, 1936. Recovery was completed within a year. During the reactions mild muscle twitchings in the legs took place at the twelfth to the twenty-fourth week period. This we interpret as evidence of reaction in multiple gliomata distributed in parts of the central nervous system. The results are a return to normalcy of the eye in every respect, and a very good condition of her health in general. She goes to school.

Fibromyoma of Uterus

A most interesting case is that of Mrs. T. who aborted while visiting friends in London. A large fibromyoma could be felt through the abdomen, which observation was confirmed by the family physician. An

eminent surgeon recommended immediate operation, since she had been flowing very freely during her menstruation. Koch Ketenones were given shortly after this. She became pregnant and was delivered of a healthy child two years and four months after treatment. No fibromyoma can now be felt. Her periods are normal and were normal from the time the treatment was given.

The responsiveness of uterine fibroid has always been encouraging, indeed.

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Fibroid of Uterus

Mrs. B. M.—Age 39. Colored.

Family History—Does not show cancer or tuberculosis.

Previous Illnesses—No children. Never sick since childhood. Allergic to milk and corn.

Present Illness—During last few years noticed hard lumpy swelling in abdomen. Free flowing for six to eight days at periods, always regular otherwise.

Examination—Reveals lumpy enlargement of uterus by multiple fibroids causing uterus to extend above umbilicus and bulge like six or seven month pregnancy. Cervix not infiltrated. Uterus movable. Compression of bladder causes frequent urination of small quantity. Compression of bowel estimated by examination. Growth rests against sacrum; causes pain and constipation.

Glyoxylide was given January 10, 1930. Recovery took nearly two years from this one dose. The allergy to milk and corn have also left. Uterus now normal and general health very good.

Fibroid of Uterus

Mrs. J. C.—Age 47.

Family History—Mother and two sisters operated on for fibroids.

Past Illnesses—Tonsilitis, headaches, and scotomata.

Present Illness—Started to call attention because of flowing between periods in July, 1932. Since December, 1933 has been flowing almost continuously, and the growth that enlarged uterus to the size of a three months' pregnancy, twenty years ago, had now greatly enlarged reaching above the umbilicus and bulging like a six months' pregnancy. There was bowel and bladder compression of marked degree.

Glyoxylide was given April 23, 1934. Recovery took less than two years to be completed, but the abnormal flowing ceased completely within two months, and was nearly normalized after a third week reaction of chills and fever and the passage of much pus and blood per vagina. Her health is splendid.

Cancer of Uterus

Mrs. S.—Age 60 . Housewife. History taken May 3, 1932.

Diagnosis—Cancer of uterus involving whole abdomen by exploratory laparotomy.

Heredity—Mother died of cancer at age 88.

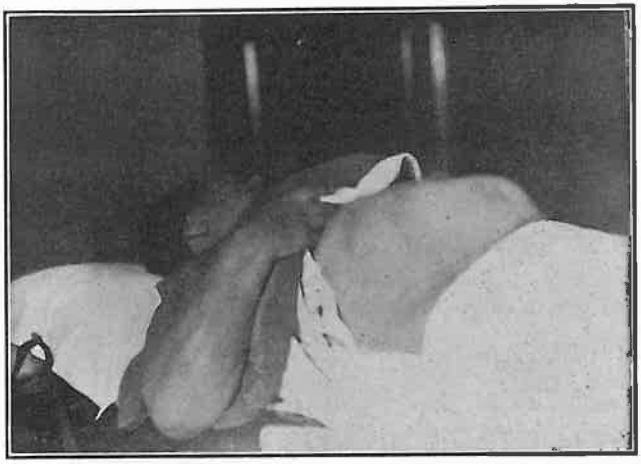
Past History—Urethral caruncle for last eleven years, very painful and troublesome for last two years. Ulcer of duodenum demonstrated by X-ray four years ago. Large fibroids were removed at time of menopause twenty years ago. Four successive attacks of pneumonia more than five years ago. Weak heart for

last five years, causing blood pressure to fall from 200 to 160 in last year in spite of increasing toxemia. She became short of breath and cyanotic, her feet and ankles swollen with dropsy. Severe hemorrhages from vagina and pain in the back for the last six months. The abdomen was enormously enlarged with cancerous tumefaction.

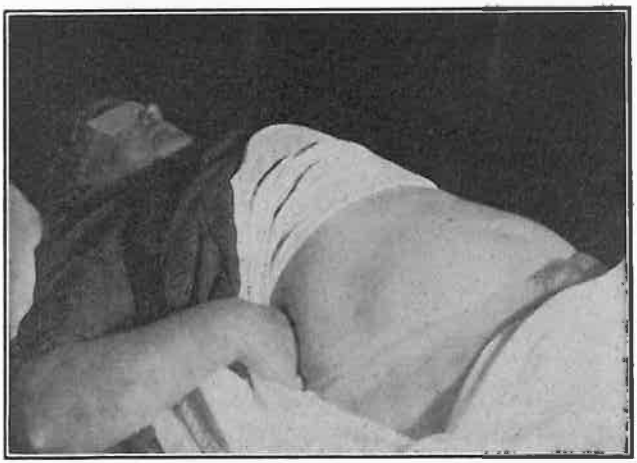
Examination—My examination revealed a large transverse operative scar and a similar vertical exploratory incision scar. The whole abdomen bulged from the presence of the large masses of cancer within, as is shown by the first photograph taken before treatment May 3, 1932. Thus the stomach, bowel and uterus were all involved and she was suffering hemorrhage because of the malignancy. The large ulcerated urethal caruncle was noted and the vagina found well filled with the malignancy that involved the uterus and abdomen. She was weak, cyanotic, short of breath and the heart was so dilated that one was forced to doubt if she would reach home before her heart failed.

Treatment—Two cc. Ketenes solution, May 3, 1932.

Results—Recovery was comparatively rapid, the cancer masses disappeared, the vaginal bleeding stopped and a return to normal was complete by April 10, 1933, when the second photograph was taken. At this time no pathology could be found, every trace of the growths had disappeared, all the stomach symptoms gave way to perfectly normal function and, although the heart action was not as perfect as in the average healthy person, it had improved so much that we considered her cured. In 1934 she had an attack resembling appendicitis. Her surgeon made an appendectomy and at the same time thoroughly explored the abdomen,



Mrs. S. before treatment. Note the enormous bulging of the cancer masses above the scar of the operation incision.



Mrs. S. showing abdomen returned to normal—note position of scar with reference to rest of abdomen.

and reported to me that no trace of cancer could be found. Photographs on page 123.

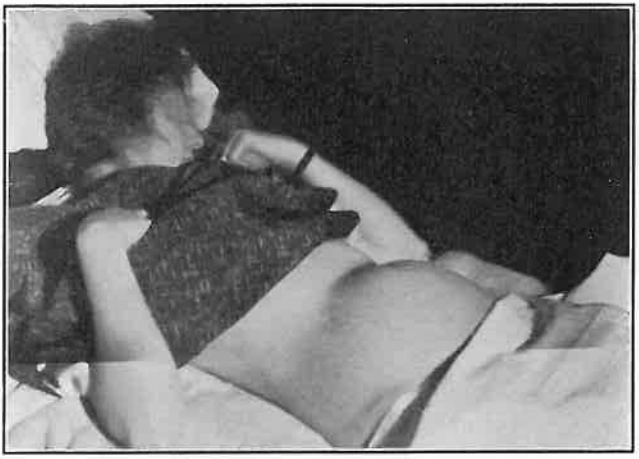
Malignant Change in Myofibroma of Uterus

Miss G.—Age 45. History taken December 2, 1930.

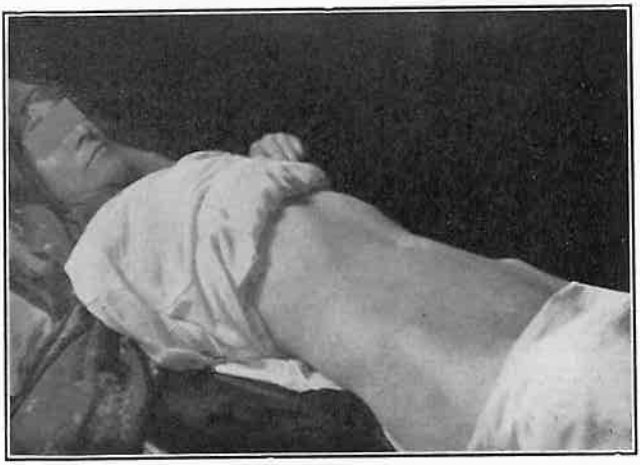
Diagnosis—Malignant change in large fibro-myoma of uterus.

Present Illness—She had suffered with backache for a number of years and three years ago felt the presence of a tumor in the lower abdomen. It grew larger, especially after the menopause two years ago, when with a spurt of speed it began to bulge even above the umbilicus. Glyoxylide was given on December 2, 1930, May 16, 1931, and May 9, 1932.

Results—Recovery was complete before the end of 1932, as the second photograph shows. At that time no more of the mass could be palpated by most thorough examinations. The first few months brought the greatest change in the size of the growth. The material that underwent most rapid digestion and absorption we consider to have been the tissue of malignant character, and the slower portion to leave was no doubt the original fibroid material. After the majority of the growth, the malignant part, had disappeared, she had a return of pre-growth symptoms, iritis and photophobia for a week, that was very troublesome but did not prevent her from attending to her work. Since that time her vision has improved and her hearing is definitely better. She is in perfect health. Photographs are produced on the following page.



Miss G. before treatment. Note the large bulging growth that filled the lower abdomen and compressed its contents.



Miss G. after recovery, every trace of the growth absorbed, and abdomen normal.

Cancer of Urinary Bladder

Mr. H. A.—Age 69. Salesman. History taken February 16, 1931.

Diagnosis—By history, exploration and physical and X-ray findings.

Pre-growth Symptoms—Psoriasis on both elbows for many years and neuritis for last five years.

Past Illnesses—No serious sickness except a Neisserian infection many years ago.

Present Illness—The trouble started as difficulty in passing urine, pain and frequency every half hour when on his feet and almost as bad at night. Cystoscopy at the Cleveland Clinic revealed a well-developed cancer of the bladder and calculi embedded in the growth. X-ray examinations showed that the pelvic bones were involved. At least one-half of the ilium and ischium were involved in a mass that could be palpated through the abdominal wall to be as large as three fists. They gave him an X-ray treatment and he grew progressively worse.

Physical Examination—He presented himself at my clinic, suffering twice the frequency of attempt to pass the urine and the pain was worse. The growth extended so as not simply to involve the bladder wall and the pelvic bones, but it reached high into the abdomen above the umbilicus on the left side and there was another mass half the size of a man's fist bulged from beneath the liver. These masses were easily detectable and palpable after the bowels were emptied by a four-day fasting and enema regime. The posterior wall of the bladder was found on rectal examination to be one large nodular mass that bulged into the cavity of the bowel, nearly closing it. The circulation in the feet

was impeded by the pressure of the growth within the pelvis, so his feet were cold.

Treatment—Our glyoxylide was given February 16, 1931.

Results—Recovery progressed steadily until completed. He is now perfectly well over six years after treatment. Rectal examination reveals perfect normalcy. The bladder was opened about eight months after treatment was given because of calculi. The surgeon reported that the bladder was all healed, that no more cancer tissue was left, but that a more vascular area than the rest was present where the cancer had been. Seven months later the cystoscope was used and this area was seen to have the normal vascularity, and the bladder wall was found completely reconstructed. At this time the remaining calculi were removed. His health is normal.

Cancer of the Vulva

Mrs. K.—Age 44.

Heredity—Mother and two sisters died suddenly. Father died after three strokes.

Previous Illnesses—Pneumonia at 18 years of age and influenza in 1918.

Pre-growth Symptoms—Began to gain weight rapidly six years ago. A myxodematous condition gradually developed and she was put on thyroid substance, four grains a day. Peculiar spells of loss of control of the muscles, particularly of the arms and hands, gradually developed. Dizziness and susceptibility to pus infections and a general nervousness was present during the last six years.

In March, 1929, she noticed a mass in her right side

which definitely bulged and made it necessary for her to bend over when she walked. She was operated on and a small growth was removed from the labium, which was diagnosed microscopically to be a squamous cell carcinoma. The mass in the abdomen was not disturbed. Her health continued to fail. There was drainage with bad odor from the uterus. For the last few weeks she was sick in bed with pain in the right side.

Our examination made in April, 1931, revealed a large mass which involved the uterus and the surrounding structures, particularly on the right side. Rectal examination revealed that the mass bulged into the cavity of the bowel almost obstructing it. The tissue was characteristic of squamous cell carcinoma, such as it was found to be microscopically. She was rather weak and anæmic. Two cc. Ketene Solution was given and recovery was gradual, not being completed until May, 1933. The cancer growth had completely absorbed and the uterus was normal by March, 1932, but the thyroid function did not come to near normal until the spring of 1933. While under treatment, she was not given any thyroid extract and the thyroid gradually improved. There is a slight deficiency remaining which requires about a grain of thyroid extract a week to bring the thyroid action up to par. Of late the patient has found that this amount can be reduced, so we are expecting that in the course of a year or two the thyroid function will be perfectly restored to normal.

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Cancer of Thyroid Gland

Miss J. E.—Age 37.

Heredity—Negative to cancer.

Pre-growth Symptoms—For the last eight years suffered spells of aphonia for three-day periods twice a year. Throat troubled her for last three years.

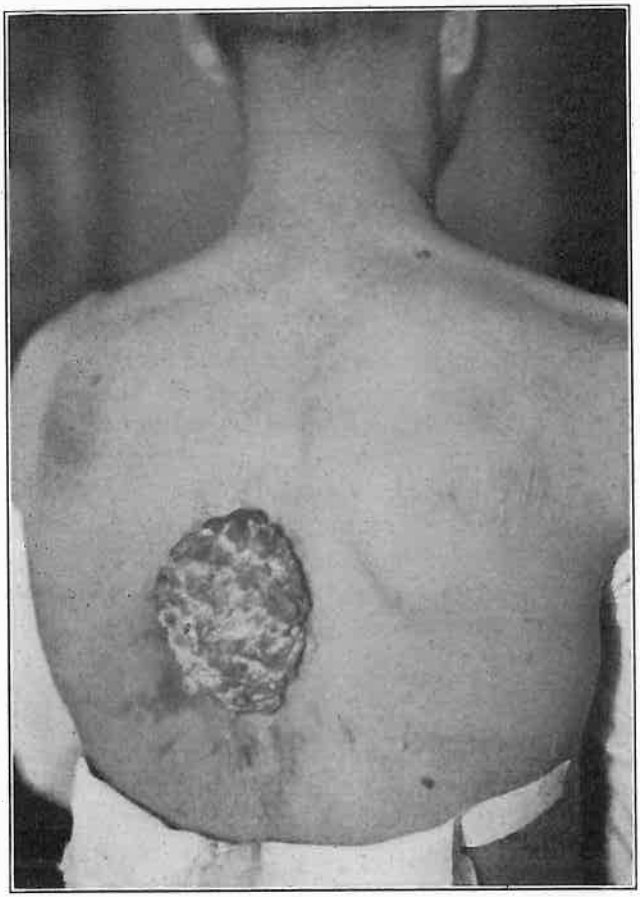
Present Illness—Started as enlargement of neck in the thyroid region in November, 1927. Biopsy was performed by Dr. M., December 2, 1927, which proved the malignancy of the lesion. There were no eye symptoms or tremor or any other indications of toxic goitre. The mass of cancer in the neck rapidly enlarged, pain became constant in the left knee, and a tenderness developed in the upper abdomen on the left side. Our examination revealed a typical cancer growth in the neck the size of half an apple. A mass about twice the size was found in the upper abdomen and above this mass the left rectus muscle was in a state of constant spasm. Tumefaction of the left knee produced definite bone irregularity. Thus the cancer tissue had reached the bone in the leg as well as glands in the abdomen where it was growing luxuriantly. The body weight was 169 pounds, showing a loss of only fifteen pounds.

Glyoxylide was given December 18, 1927, and recovery was rapidly completed, with complete absorption of all cancer tissue and restoration of normalcy in less than thirty-six weeks. Latest reports indicate that she is in perfect health.

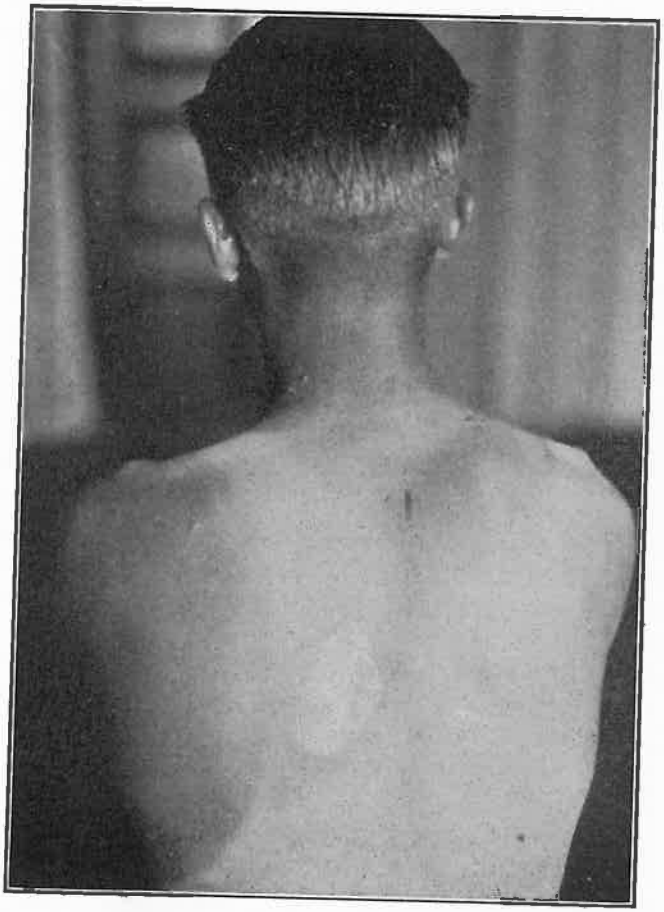
X-Ray Cancer

Dr. B.—Age 71. X-ray cancer developed between the first finger and thumb over an area the size of a

Inoperable well metastacized microscopically confirmed squamous cell carcinoma of the skin, refused operation at a reliable surgical clinic, made successfully operable by a dose of Glyoxylide.



Mr. L. after treatment when growth was undergoing digestion, just before removal. Note the areas of malignant pigmented infiltration which were not touched surgically. Also the two non-malignant pigmented moles on shoulder and right side.



Mr. L. after recovery, three months after treatment. Note the malignant pigmented infiltration disappeared, but the non-malignant moles still remaining though undergoing absorption and becoming smaller.

quarter following the use of X-rays for years in dental radiography. Radium and escharotics had been used unsuccessfully and at time of the Glyoxylide treatment it had been advancing steadily for some six months. Biopsy had confirmed the diagnosis, and amputation of part of the hand was being considered. However, one dose of glyoxylide under recommendation of Dr. D. was made on March 26, 1934. Recovery was steady and was completed in about eight months. There was also a great improvement in the general health. He remains well.

Dr. R.—Age 65. Had employed X-ray for a period of twenty years, following which, during the last five years X-ray cancer developed on the first and second fingers of the left hand; some malignant change showing on the thumb. The first finger was amputated after the pain had become so severe that it could not be stood and it proved to be X-ray cancer under the microscope. The second finger was under consideration for amputation too, because of the severity of the pain and the progress of the lesion when the Glyoxylide was tried in November, 1935. One dose proved sufficient and before a year passed recovery was completed with restoration of normal skin. The pain subsided rather rapidly. General health improved in many particulars also. He remains well.

Cancer of Breast

The following history is given in greater detail for those who care to study it.

Patient—Mrs. C. N.—Age 43. Housewife. History taken September, 1926, when Glyoxylide was administered.

Past History—Abscess of right breast following injury in childhood. Rheumatism at 13. Appendectomy in 1914. Gall bladder explored in 1920. Also tonsillectomy. Since 1920, enlargement of finger points, helped by colchicum.

Present Complaint—A hard mass above the nipple, egg size, first noticed in 1921, as a soft swelling which recently grew rapidly, large and hard causing retraction of the nipple. In January, 1925, right breast was radically removed with "axillary glands and pectoral muscle, carrying the dissection to the midline over the sternum upward to the clavicle and outward to the latissimus dorsi muscle, and downward including the upper part of the rectus fascia. The pectoralis major and minor were included. The microscopic examination made is reported thus: 1. Sections from tumor proper show larger and smaller gland alveoli lined with many rows of epithelium or entirely filled by epithelium. These cells are of moderate size and have relatively large deeply staining nucleus and many of them are undergoing mitosis. In addition to these large gland alveoli the fibrous atroma of the breast is infiltrated in all directions by compressed alveoli of the same type of cell. 2. Sections some distance from the tumor show hypertrophic gland alveoli and also large atypical alveoli like those seen in the tumor proper. 3. Other areas some distance from the tumor show no invasion, but alveoli containing large clear epithelial cells of the type designated "hyperplastic number 2" by McCarty. 4. Sections from nipple show no invasion. 5. Sections from axillary glands show large tumor alveoli in those from the midaxilla only. Diagnosis adenocarcinoma of breast." She left the hospital, February 12, 1925. The hospital reports their examination made, June 2,

1925 after a series of radiations from, February 9, 1925 to May 3, 1925, to show no evidence of recurrence. Likewise in July, 1925, no recurrence was noted. However, patient returned to the hospital in September with pains in the right subcostal region, nausea and vomiting. Examinations were reported also in November and December, 1925, and no recurrence mentioned except the possibility of liver envolvement. In late 1926, the right arm began to swell, which her surgeons account for as due to lymphatic obstruction.

Examination—On applying to me in September, 1926, examination revealed a mass above the right clavicle a little larger than an English walnut. In the right axilla two tumors were found, one the size of a hickory nut and one the size of an almond kernel. The operation area showed some malignant induration as three small tumefactions in the line of suture. The liver was enlarged by three finger-widths below the right ribs as a definite hard mass attached to the liver. She was somewhat icteric in color. Very thin and toxic.

Treatment—One cc. of glyoxylide was given September 21, 1926. There was some definite reaction of grippiness, slight chills and fever several days later and during the third week. The metastasis absorbed completely before the end of the twelfth week. The large one above the clavicle disappearing first of all, namely, during the fourth week. In the meantime the gastric symptoms also cleared up and the liver involvement was no longer detectable after the sixth week. Her health improved steadily and her weight increased from about 87 to 103 pounds. Examination made in February, 1937, ten years after treatment shows no

involvement by cancer whatever and general good health.

Discussion—This case of very malignant cancer of the breast that recurred vigorously during the year following operation of the most radical sort, and deep X-ray therapy, made a prompt complete recovery on the Glyoxylide even though the recurrences were so widespread as to envolve the liver as well as the glands and tissues of the operation area and above the clavicle.

Malignant Glioma of Brain

Mrs. T. R.—Age 35. Normal weight 209 pounds. Weight on admission about 70 pounds.

Diagnosis—By clinical history, X-ray and physical findings, malignant glioma of brain.

Family History—Negative to cancer.

Past History—She had a fever in Russia many years before, but was well otherwise until the present illness began in the summer of 1921.

Present Illness—The trouble started as headache, interference with vision and a gradual loss of the use of the right arm. In December, 1921, a piece of skull as big as the palm of a man's hands was removed from the right side. A diagnosis of glioma was made and two deep X-ray treatments were given. Her condition became progressively worse. A gradual swelling of the decompression area was observed. This increased until July, 1922, when we were called to see the patient. A hard mass as big as a grapefruit projected from the decompression area. The patient at this time was reduced greatly in body weight, paralyzed, blind and there was persistent projectile vomiting of the most severe type and massive liver metastases.

This was seven months after the X-ray treatments had been given.

Treatment—One cc. of Glyoxylide was given.

Results—Recovery was rapid. All traces of growths completely disappeared in five months, paralysis, vomiting and blindness disappeared and her weight was restored to 180 pounds. In another ten months her weight reached 220 pounds, where it stands today. She works hard every day. The bone removed from the skull has been completely reconstructed and there has been no return of the trouble. Seen last in July, 1936.

Cancer of Oesophagus and Cardia

Mrs. W.—Age 52.

Family History—Suggestive of malignancy.

Past Illnesses—Gastric ulcer for over twenty years with hemorrhages.

Present Illness—Started as rapidly increasing difficulty in swallowing and a bad gastric attack of vomiting and pains which did not cease day or night until laparotomy was done on November 7, 1936, after the pain had become especially severe. Laparotomy revealed a carcinoma occupying the whole lesser curvature of the stomach more than an inch in thickness; nodular, extending up through the diaphragm and reaching to the pyloris, and encircling the cardiac end where it caused constriction and obstruction. The width over the lesser curvature amounted to about five inches; length six inches. Radiographs previously and subsequently made showed two and one half inches of esophageal construction and involvement. During the two weeks' attack she lost fifteen pounds, and some

ten pounds in the preceding few weeks because of difficulty in swallowing which reached the stage when even water would not pass. Her weight dropped to about ninety pounds by December 7.

Treatment of one dose of Glyoxylide given December 7, 1936 was followed by a few days of achiness and slight fever and chills. Thereafter, improvement was rapid with gain of weight and complete return to normal, functionally, radiographically, and by physical examination with gain of weight to 145 pounds. Splendid general health is fully restored.

Lymphosarcoma

Mrs. A. C.—Age 40.

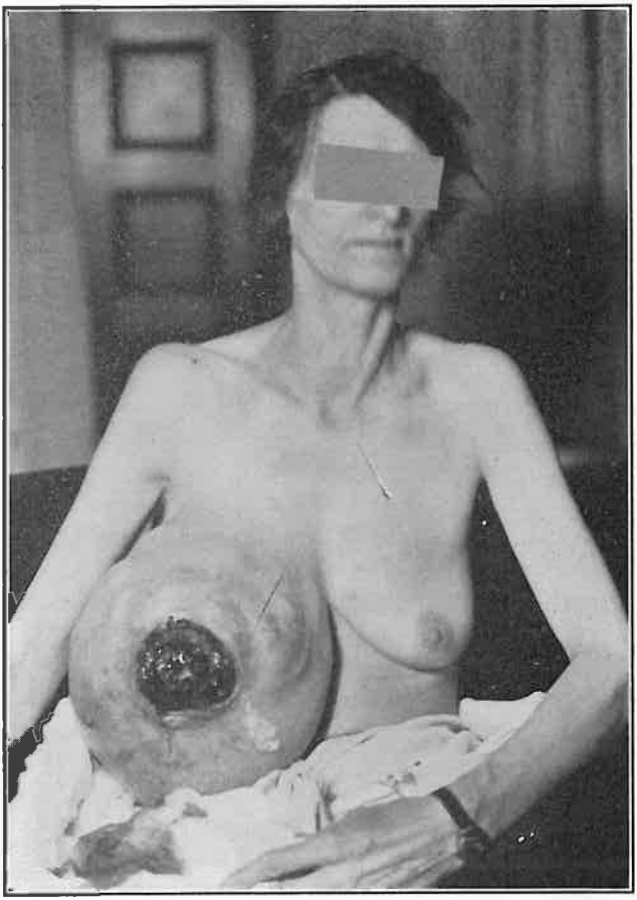
Family History—Mother died of cancer of the uterus at age of 62.

Past History—Appendectomy at 35. Had small lump back of neck size of pea from childhood.

Present Illness—Eight weeks ago lump began to increase to hickory nut size very rapidly and after five weeks had it removed surgically. Microscopic study revealed it to be "lymphoblastoma of lymphosarcoma type" as reported by pathologist of good standing. Rapid recurrence took place so that in three weeks the operated area became a tumefaction somewhat reddened and occupying the middle third of the Sterno-C-Mastoid muscle about an inch in diameter. Area below contained several masses the size of a pea and hard. There was rather rapidly developing toxicity and failure in general health. Loss of weight from 108 to 101 pounds in last few weeks.

Treatment—One dose of Glyoxylide was given on May 19, 1937 and recovery took place rapidly. In

Inoperable carcinoma of breast microscopically confirmed, and well metastacized, made successfully operable by several doses of Glyoxylide.



Miss N. after growth started to become digested after the antitoxin just before its removal.

Miss N. after complete recovery.

three weeks all tumors were completely absorbed and the weight gained to 102½ pounds. Inspection, August 31, 1937, confirmed the recovery. Rapid recoveries take place in cases where the growth develops

rapidly and where the patient is not overwhelmed with the disease as this case illustrates.

Cancer of Uterus

It is easy to understand that a simple case of cancer, uncomplicated with serious deficiencies or injuries, may make a neat recovery and in the farthest advanced case where death is imminent and organic injury and vital deficiency have reached the limit, that recovery could hardly be expected. Still several such moribund cases have recovered for us on but one dose of the diketal that was given. An interesting case of this type that had been in final coma for twenty-four hours before she received the Glyoxylide and recovered, steadily and completely, is here sketched in the following history.

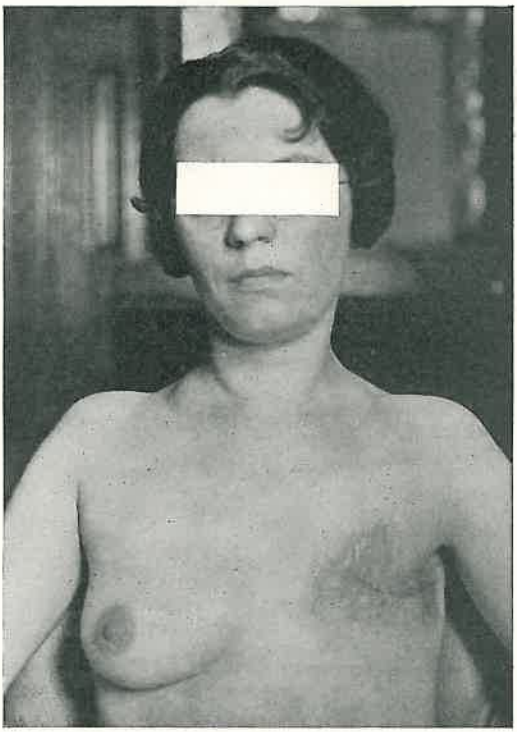
* * *

Mrs. M. P.—Age 47. Housewife.

Pre-growth Symptoms—Dizziness for twenty years. Double vision with overlapping of objects above each other apparently, from October, 1925 to July, 1927.

Past Illness—Cardiac lesion, mitral stenosis, for many years, with consequent cyanosis, dyspneoa, etc.

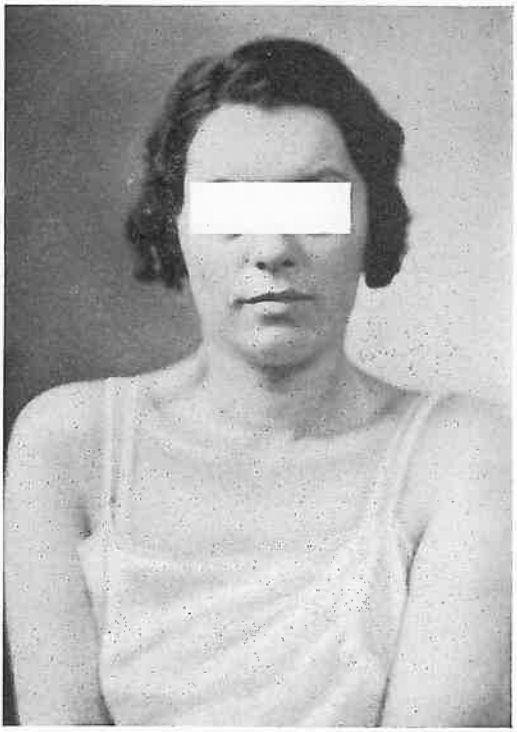
Present Illness—Started as brownish discharge from uterus in fall of 1925. By June, 1926, tumefaction of lower abdomen, pain uterine bleeding and foul discharge. Examination by several surgeons and radiologists were made. Malignant infiltration found so widespread surgery was refused. Radium applied early in November, patient drove automobile then. Fourth radium treatment given on December 30, patient bedfast, had to be moved in ambulance. X-ray



BEFORE

Miss P. before treatment, showing metastases of recurrent cancer of breast over the clavicle, after surgical escarotics. There was also well developed metastasis in the axilla and infiltration of breast area.

then tried, declined in health even more rapidly; hemorrhages, pain and tumefaction increased. Examined at University of Michigan Hospital, diagnosis confirmed by biopsy, but refused treatment, sent home as hopeless. Two exhausting hemorrhages on May 29, 1927 completed her decline and by June 2, she was in coma.



AFTER

Miss P. after treatment with two injections of the "glyoxylide," showing disappearance of the recurrences. She has remained perfectly well with every trace of cancer abolished.

At this time the growth was enormous, filling vagina and compressing bowel, causing abdomenal bulging.

Treatment—One dose of the glyoxylide was given June 2, 1927 while patient was in coma.

Results—Within a few days there was substantial improvement. Before the twelfth week she could work a bit in the garden. Within six months all cancer

tissue was absorbed. The diplopia disappeared soon after the Glyoxylide was given. She is perfectly normal now; no cancer; health perfect; except for the cardiac lesion. Weight normal.

Cancer of Uterus

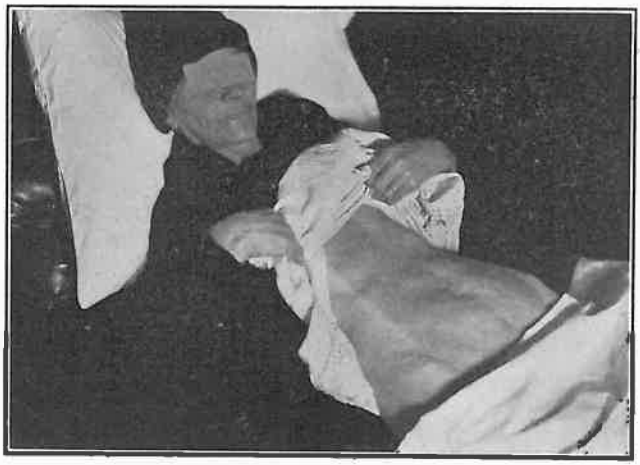
Mrs. Mc. A.—Age 43. Housewife. History taken July 29, 1929.

Diagnosis—Made by clinical history, physical findings, exploratory laparotomy and microscopic findings.

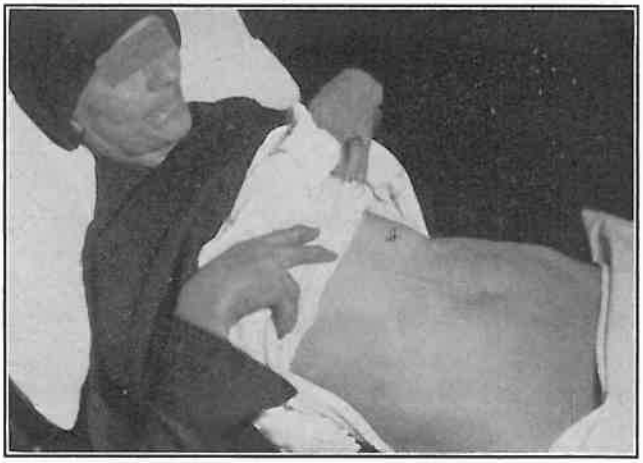
Family History—Father's sister died of cancer.

Past Illnesses—She was rather healthy all her life except that since the influenza epidemic in 1918, when she had an attack, she was subject to stomach trouble. Pain in abdomen and right shoulder came in attacks that caused vomiting. Several doctors diagnosed gall bladder trouble and gall stones, but the X-ray did not reveal any stones. Nevertheless the attacks of pain were exactly like gall stone attacks, so she was placed in a hospital July 15, 1929, and an exploratory operation was made by Dr. T. He found a state of generalized cancer throughout the abdomen. The stomach, bowels and uterus were all involved. He removed a specimen for microscopic test which confirmed the diagnosis of cancer. Because of the hopelessness of the condition, he closed the abdomen and sent the patient to us for treatment.

Physical Examination—At the time of our first examination on July 29, 1929, the patient was in a state bordering on shock. On careful examination the great extensiveness of the malignant masses could be determined. Besides a large three-fist-sized bulging mass about the uterus, there were other smaller masses



Mrs. J. before treatment, note abdomen bulging in places from the growths within.

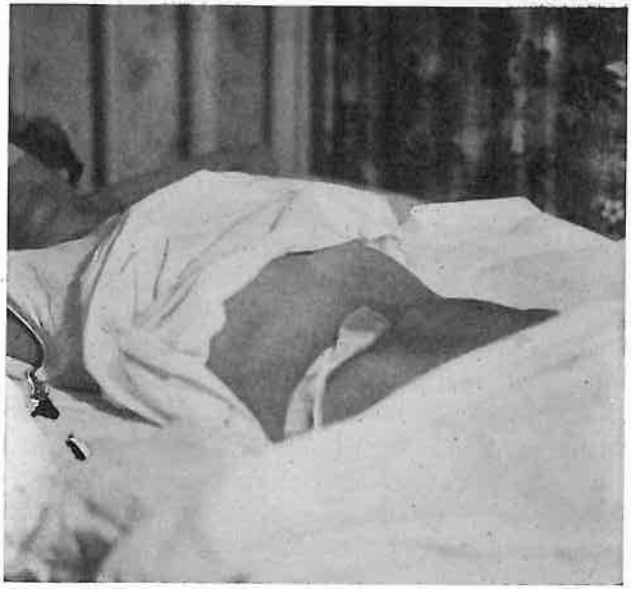


Mrs. J., abdomen returned to normal.

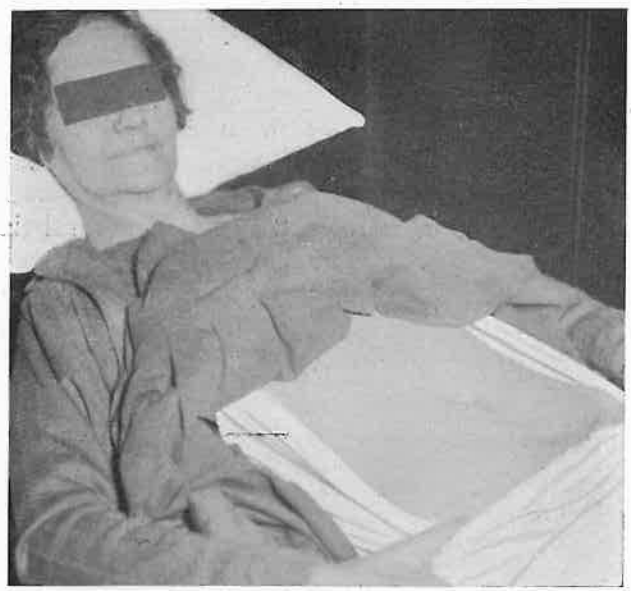
involving stomach and liver. Her heart was very weak and there was some cyanosis and dyspnoea.

Treatment—The Glyoxylide was administered on July 29, 1929.

Results—Recovery was slow at first. During the period between the sixth and ninth weeks there was constant vomiting and the already emaciated patient lost considerably more weight. In fact, several times we lost hope that she could recover. At the end of the ninth week she probably weighed about 75 pounds. After the ninth week reaction of chilliness and slight fever, she became able to retain food and soon started

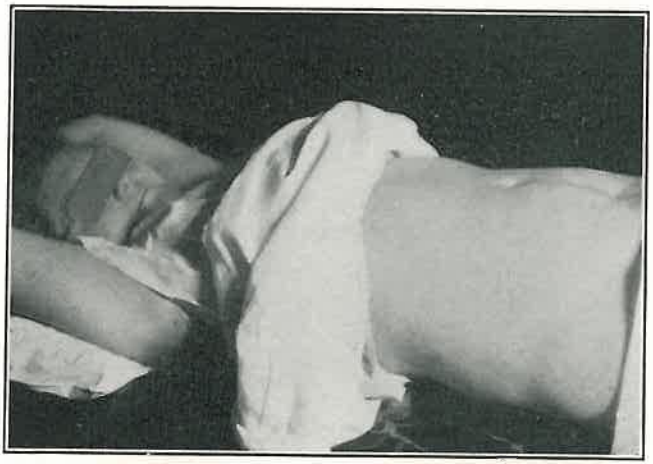


Mrs. McA.—Showing bulging cancer mass in abdomen before treatment. Diagnosed by exploration and biopsy far advanced cancer widespread throughout abdomen.



Mrs. McA. taken within six months showing complete recovery.

to gain at an appreciable rate, two and a half pounds a day for a while, then about five pounds a week and finally about two pounds a week until she about doubled her weight. After she reached 140 pounds, the increase was slow up to 180 pounds and thereafter still slower up to 200 pounds. All of the masses had absorbed by the time the weight increase was noted. She is entirely well. No trace of cancer can be found on most careful examination. She now weighs 220 pounds, more than six years after treatment, and is in perfect health.



Mrs. McA. taken in 1933 showing improved nutrition and complete recovery. She remains well still seven years after treatment.

Cancer of Rectum and Liver

Mrs. M. G.—Age 67. Housewife. History taken June 5, 1933.

Diagnosis—By history, physical examination, by explortory laparotomy and biopsy, cancer of rectum.

Family History—Sister died of stroke at age 79. Mother died at 87. Father died at 77.

Previous Illnesses—Rheumatism of knees and ankles for the last four or five years. Thirty years ago had 18 pound fibroid tumor removed with the uterus. Good health since until two years ago when obstipation asserted itself and she concluded that she had a growth in the bowel. Examination by a good surgeon found a growth in the sigmoid in December, 1932. Obstruction became complete by April 27, 1933, when a "window" colostomy was performed, and a biopsy was made

that demonstrated that circinoma of high grade malignancy was present. The patient so informed me but a search of the hospital records by the surgeon showed the biopsy report missing. A prognosis was made at the time of about a month to live.

Physical Examination—Examination June 5, 1933, revealed an enormous mass occupying and completely filling the lower bowel, palpable through the abdominal wall to be the size of a large cantaloupe. The liver was enlarged by a fist-sized mass, hard and lumpy, and bulging. Fortunately the colostomy was a lateral opening without severing the bowel. The patient was extremely cachectic and weak. Acopious drainage of foul bloody fluid and regular vomiting of food and decayed material was noted. The pain was very distressing.

Treatment—One cc. Glyoxylide solution was given on June 7, 1933.

Results—A reaction took place in three days, with some achiness. Thereafter there was improvement in her general health and less toxicity. The vomiting stopped. Soon she was relishing food and the pain left. By the end of three months some feces were passed per rectum, and in a year the colostomy healed spontaneously and all movements were discharged per rectum. She came to something approaching normalcy. Yet there was always some growth remaining and some discharge from the bowel. On July 30, 1934, a dose of Glyoxylide was given and thereafter a strong reaction took place, on the fourth day, and during the ninth and twelfth weeks, fever, achiness, pains in the abdomen and diarrhoea for a whole week. True recovery followed quite rapidly and she is in perfect health now, strong, free from cancer symptoms, and

without any growth traceable in bowel or liver. Her bowels move normally.

Cancer of Stomach Completely Blocking Cardia and Pyloris

Mr. B.—Age 46. History taken April 6, 1924.

Pre-growth Symptoms—Gastric ulcer for last ten years.

Present Illness—Started in 1921 with constant pain in epigastrium, radiating into dorsal vertebrae, vomiting of fresh and old blood, loss of weight from 220 to 120 pounds during 1922 and 1923, and suffered increasing pain on attempts to swallow, food returned quickly with blood. During last six months practically no food retained. Diagnosis made at several hospital clinics. Radiographs recorded complete envolvement from cardia to pyloris. Confirmed by laparotomy March 12, 1924. Prognosis about one month. Thereafter became worse rapidly. On examination April 6, 1924, I found the belly scaphoid except for a large bulging mass filling the upper half and several smaller masses in lower half. Metastasis above the clavicle on left side, walnut size. No food could be retained, frequent vomiting of putrid bloody debris, extremely weak, suffered severely and was practically moribund.

One cc. glycolaldehyde solution was given subcutaneously. Recovery was steady, and within a year he was back to work and has been well ever since, except for an inguinal hernia sustained by heavy lifting. He gained to 200 pounds, works hard. Examinations reveal absolutely no pathology. Radiographs normal.

AUTOPSIED CASES

Several patients with extensive adequately diagnosed cancer within the abdomen were treated in the past and made full recoveries, but died from other causes than cancer. Autopsies were made to establish the cause of death and to investigate the possibility of recurrence of malignancy. They are briefly reported here.

Cancer of Uterus Involving Whole Abdomen

Mrs. E. F.—Age 38.

Diagnosis—By clinical history and exploratory operation July, 1919.

Family History—Negative to cancer.

Past History—Well all her life until present trouble.

Pre-growth Symptoms—Dizziness and a sensation of falling long distances on closing the eyes, for a period of nine years before the growth could be felt in the lower abdomen by the patient. These attacks let up about six months before she noticed the growth.

Present Illness—Started with nausea, vomiting and pains in the back and lower abdomen, and attacks of pain that doubled her up. From July, 1918, to June, 1919, loss of weight from 172 pounds to 97 pounds took place and the growth in the abdomen enlarged until the patient noticed the umbilicus to be displaced to the right and become fixed. At the same time, the abdomen became large and hard and a change to a yellow cachexia took place. Several physicians made a diagnosis in June, 1919. Exploratory operation was

performed to settle the diagnosis and with the following report: "Found trouble to be cancer of the uterus, and in such shape that an attempt to remove it would undoubtedly prove fatal; consequently there was nothing to do but close the wound and keep the patient as comfortable as possible. Prognosis: six months."

At this time the body weight had dropped to 97 pounds. Patient kept failing rapidly, vomiting became continuous, pain constant, she became bedfast and several hemorrhages from the stomach took place. Patient was brought to Detroit November 17, 1919. At this time her weight was about eighty pounds, her legs were drawn up by the pain so that attempting to walk was made very difficult.

Physical Examination—Examination revealed a mass that involved all of the organs of the lower abdomen and pelvis and had also spread to the liver and stomach, causing frequent vomiting of blood.

Treatment—One cc. of solution of natural glyoxylide from heart muscle was administered intramuscularly in November, 1919.

Results—Recovery and complete absorption of the growth was completed in about a year and the patient remained perfectly normal and in the best health she had ever experienced until the Spring of 1935 when she sustained a cerebral hemorrhage. There were severe body bruises suggesting an accident. Autopsy was performed by Dr. W. The abdomen was carefully searched and no trace of malignancy found. The uterus and adnexia were preserved. They are free from cancer. A few days later an autopsy was made by the county coroner and the cause of death established to be cerebral hemorrhage.

In this case recovery from cancer, which was far

advanced at the start, was complete and permanent for over fifteen years without recurrence.

Mr. S.—Recurrent melanotic sarcoma after radium and escharotic removal before glyoxylide treatment given October, 1927.

Sarcoma of Abdomen

Mrs. J. W.—Age 43. Housewife.

Diagnosis—By clinical history, physical findings, exploratory laparotomy and confirmed by microscopic examination, small round cell sarcoma.

Pre-growth Symptoms—Dizziness, headaches, and transient blind spells for some five years, that let up just prior to 1920, when disturbances, referable to a mass the patient felt in the region just above the umbilicus, became troublesome.

Mr. S.—Showing recovery after glyoxylide treatment.

Present Illness—In the Spring of 1932 her legs started to swell and severe attacks of pain, that doubled her up, came at intervals. These attacks finally became rather frequent and were diagnosed as attacks of intestinal obstruction. At this time she could feel the growth that distended her abdomen and was referred to the surgeon for operation.

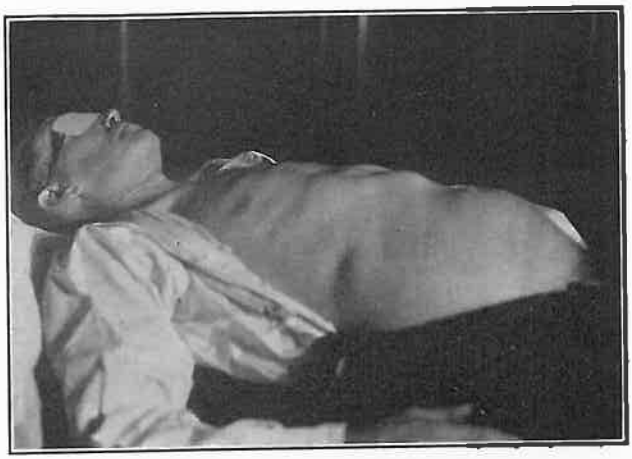
An exploratory operation was performed on August 7, 1922. A specimen was removed for microscopic diagnosis and the wound closed without any attempt at

removing the growth, which was found to extend throughout the abdomen. The surgeon thought she might live ten days and she was taken home to die. Her strength rapidly failed and in ten days she could no longer raise her hands to feed herself. At this time we were called to see her.

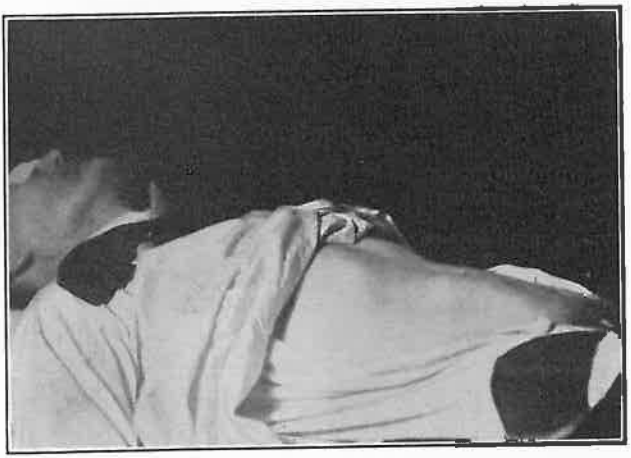
Physical Examination—Examination showed a large mass distending the abdomen and extending from the ribs to deep in the pelvis. Its size was much larger than a man's head. Both legs were swollen enormously because of the tremendous pressure of the growth on the large vessels in the abdomen. The patient was in great pain and very weak, suffering the cramps that characterize intestinal obstruction. The family was advised that it was most likely too late to obtain any results from the treatment as the heart was failing, but they wished to make the effort.

Treatment—The glyoxylide solution was administered in August, 1922.

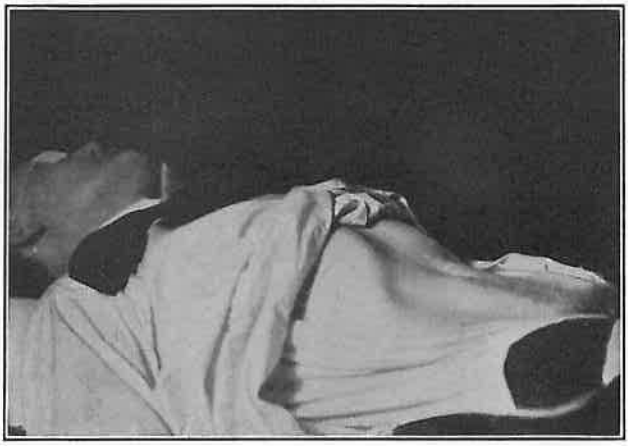
Results—Recovery was gradual. She was back to her household duties within five months. All traces of the mass had disappeared, the swelling of the legs and feet had long since left, and her natural vigor had returned. She was in perfect health until the winter of 1927, when she developed pneumonia which caused an adhesive pericarditis. Thereafter a labored heart action persisted until death occurred by cardiac failure on November 20, 1928. An autopsy by three physicians demonstrated that not a vestige of cancer could be found and that the abdominal organs had been completely healed and reconstructed. However, examination of the heart explained its abnormal behavior for the past ten months and proved heart failure to be the cause of death.



Mr. R. before treatment. Note the bulging of the cancer masses throughout the abdomen. (History not reported here.)



Mr. R. after recovery—abdomen completely normal all traces of cancer masses have been absorbed.



Mr. R.—Abdomen drawn in to show the freedom from cancer growths. Recovery complete.

Cancer of Tongue

Mr. G. A. L.—Age 55.

Family History—Father died of cancer of the stomach.

Past History—Good health all his life except pre-growth symptoms.

Pre-growth Symptoms—Dizziness on stooping, lying down or getting up, spells of blindness and tachycardia, spells of loss of muscle control. These symptoms were much better after the growth came.

Present Illness—In the summer of 1923, noticed a growth under the middle of the tongue. He went to the University of Michigan Hospital where Dr. C. removed a specimen for diagnosis. Laboratory report: "Squamous cell cancer." September 15, 1924, the growth and part of the tongue were removed surgically

and radium applied. The radium was applied at monthly intervals three more times. The second radium treatment was followed by a more rapid extension of the growth, which was increased with each subsequent radium exposure. Finally in March the cautery was used radically after the last radium application. In three weeks the disease spread with terrific speed, so as to involve the whole mouth, palate and cheeks. The lower jaw bone was exposed and largely necrotic. The base of the tongue was represented by a large cancer mass that occluded the pharynx, preventing any attempt at speech or swallowing. The sides and front of the neck and chin region were entirely infiltrated and swollen hard and blue. The patient was practically bedfast and emaciated and suffering severely. Hemorrhage was severe. First glyoxylide was given April 11, 1925, and the second May 12, 1925.

Results—In one week after the second treatment patient was able to take heavy liquid foods without aid and the extension of the disease over the cheeks had cleared up. Three weeks later patient was taking regular diet conveniently. Reconstruction of the jaw bone and tongue were satisfactory after one year. By September, 1925, cure was completed. Patient back to work at the automobile plant where he had been employed before his illness. Gain of nearly 55 pounds in weight.

In the summer of 1931 he fell while out walking, was taken to the hospital in an unconscious state and so remained for three weeks. The doctors could not satisfy themselves as to the diagnosis. He came out of the state of unconsciousness suddenly and soon was back to work, but shortly afterward another spell of the same kind proved fatal. Autopsy revealed that there

was no trace of cancer to be found anywhere in his system but that the brain cells showed a hydropic degeneration characteristic of radium injury. Thus though he was cured of cancer by the antitoxin, radium injury still progressed to fatality.

Recoveries demonstrated at autopsy as long as fifteen years after treatment certainly speaks for its permanency.

Surgery as Adjunct to the Ketenones

In the recovery from cancer under this type of treatment it may prove a convenience or a necessity to surgically remove the growth. Thus when the patient must work and odor is a disadvantage, or if a large badly infected mass of necrotic material would tax the body resistance too severely, surgical removal of the major accessable growth material after immunity is established may be done. Two photographs with brief statements as to history have been submitted to illustrate,—pages 130, 131, 138, 139.

There is always risk of irretrievably destroying recently induced immunity when anaesthetics must be used. Therefore, whenever possible, recovery should be attempted without taking that risk.