CANCER STUDIES: IN RELATION TO RESULTS OF TREATMENT WITH AN AQUEOUS EXTRACT MADE FROM THE CORTEX OF THE SUPRARENAL GLAND

A FIVE-YEAR REVIEW ON TREATMENT RESULTS IN INOPERABLE AND HOPELESS MALIGNANCIES*

REPORT ON 7,513 CASES

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THE cause of and the treatment for cancer constitute a problem of very vital importance to the public, to every medical school, hospital, and to the entire medical profession.

It is only within the last thirty-five years that this disease has been studied systematically from the experimental point of view.

PART I

DISCUSSION OF THE UNDERLYING PRINCIPLES IN THE FIVE-YEAR STUDIES BY THE AUTHORS

Woglom, in a meeting of the Pathological Society held in Philadelphia in 1931, divided this period of thirty-five years into three decades.

First Decade: (*a*) The transplanting of malignant tumors; (*b*) a method of protection against inoculation; (*c*) the resistance of cancer cells to various agents; (*d*) the hereditary nature of cancer in mice and (*e*) the transmissibility of sarcoma of the fowl was discovered.

Second Decade: (*a*) The growth rate of the cancer cell was determined and (*b*) two methods of producing experimental tumors were discovered.

Third Decade: (*a*) Another method of producing tumor growth was reported; (*b*) the chemical nature of the carcinogenic hydrocarbons in tar was established; (*c*) the amount of irritation necessary to initiate neoplasia was determined, and (*d*) some idea of the vast extent of the cancer problem—obtained from the fact that during the past five years in the research clinics conducted by us, we have had under observation 7,513 patients afflicted with cancer.

PRESENT OR FOURTH DECADE STUDIES

We are now in the *fourth decade,* studying the metabolism of the cancer cell and the endocrine imbalance as the probable cause of malignant tumors. Enough experimental work and evidence will be given to show that these newer points of view are proving to be of unusual importance to the understanding of the nature of the malignant process.

The American College of Surgeons, as well as many other organizations, has made cancer research a part of its permanent program.

HIGH CANCER MORTALITY EMPHASIZES NEED OF INTENSIVE EXPERIMENTAL STUDY

We are all familiar with the high and tragic death rate in our own country because of cancer, and it behooves all of the medical organizations, foundations and societies to continue to enlist their best efforts against this scourge. Some organizations have for their primary object research study relating to the cause of cancer; others exhibit more interest in the control of patients and profits. I think you will agree with us that the problem should be kept free from any semblance of commercialism.

AUTHORS' STUDIES IN LAST FIVE YEARS WERE CONFINED TO HOPELESS CASES

It should be kept in mind that our work of five years' clinical study and research has been entirely among the hopeless cases, suffering from some form of malignancy; all abandoned because present usages, such as surgery, x-ray and radium, were of no avail. It has been our uniform policy to refer all incipient or early cases to present usage for treatment.

AUTHORS' VIEWS CONCERNING THE CONSTITUTIONAL NATURE OF MALIGNANCIES

At the inception of our work, theoretically we were of the opinion that malignancies were constitutional and could be explained on the basis of a deficiency; that the normal functioning of the cell was a mitosis; that there was a controlling element to govern this act, or function; that this chemical governing element was an active principle or hormone supplied by the adrenal cortex, and found in other tissues of the body. Quoting from our original article published in the September, 1930, issue of CALIFORNIA AND WESTERN MEDICINE:

"First, cells with no definite function, and without a controlling element, might become what we would then term 'anarchistic cells,' growing and multiplying at a rapid rate without proper relationships to other tissues and cells of the human body.

"Second, if cells of the human body, during their functional activity, received an insult by bacterial irritation, trauma or otherwise, such cells might likewise begin to multiply and give expression to themselves," and, we might add, in the form of pathological mitosis. In any case, a controlling element, that is, a chemical governor, or stabilizer, is necessary for the normal function of a cell.

AS TO THEORIES ON ETIOLOGY OF CANCER

There have been many theories as to the cause of cancer, the most common of which is trauma. Of course, trauma may be divided into many types: that of direct blows, chronic inflammatory

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conditions, and it is probably consistent to include, under this heading, from the standpoint of an irritating process, the parasite, virus and bacterial agents—these organisms acting either as a direct irritant or indirectly affecting the chemistry of the cell.

In the medical literature we find that the incidence of the increase of cancer of the lung, pharynx and larynx during the past several years, from surveys made in the large cities of the world was due, it is assumed, to irritation from carbon monoxid, produced chiefly from the exhaust of gasoline engines.

Carozzi of Geneva, at the International Cancer Congress at Madrid, 1933, mentioned the increase, in a reverse ratio, in cancer of the rectum in females, which is commonly attributed to the common use of heavy oil. If such is correct, both of these could, likewise, be placed in the category of traumatic irritation.

THE INDIVIDUAL CELL AS A BASIS FOR INVESTIGATION

In this *fourth decade,* in the field of pathology, it is recognized that the individual cell is the basis for most investigation. Investigators are studying the anatomical structure of its physiology from the viewpoint of both metabolism and catabolism; that is, the study of the chemical and biochemical nature of a cell, and the changes which might take place in its histological structure, which would lead on to a pathological mitosis.

IN MALIGNANCIES, HOW DOES NORMAL CELL TAKE ON PATHOLOGIC NATURE?

In our original paper we called attention to the fact that malignancy should be studied from the physiological, biochemical and histological standpoints, and also the reason behind the mystery of the change from a histological to a pathological mitosis.

What are the influences and underlying reactions which are taking place in this cell, which eventually bring about this pathological condition?

The study of the relationship between carbohydrates, lipoids, amino acids and other constituents involved in anabolism and catabolism, may help to solve this problem.

When the normal cell life is altered to any degree, with a perversion of its original function, it can then become what we term a malignant cell.

Any change in the normal function of a cell depends upon two factors: intrinsic or extrinsic influences. Abnormal changes in the action of either of these two properties cause a mutation of the cell to a different form, or result in its final extinction.

AUTHORS' VIEW THAT THE CONSTITUTIONAL FACTOR BEHIND THE CANCER CELL IS A DEFICIENCY OF AN ACTIVE PRINCIPLE SUPPLIED BY THE CORTEX OF THE ADRENAL GLAND

In the development of the malignant cell, the underlying constitutional factor is intrinsic, due, we believe, to the deficiency of an active principle supplied by the cortex of the adrenal gland, and found in varying quantities in tissues throughout the body. This active principle, or hormone, when normally supplied, prevents the mutation of the normal cell characteristic of malignancy.

CONTRADICTORY REPORTS CONCERNING ADRENAL EXTRACTS

Although several investigators report that they have obtained negative results with adrenal extracts in experimental tumors in animals, it is also true that other workers have obtained positive results. While it is difficult to judge negative results in this connection, it should not be forgotten that the variability in different types of tumors, animals and human beings, and most important of all, variability in potency of extracts, all are factors that should be evaluated before much significance is attached to negative results. The activity of hormone preparations can easily be destroyed if the details in their preparation are not followed very closely.

AUTHORS' STUDIES OF SYMPATHETIC NERVOUS SYSTEM: THE INFLUENCE OF THAT SYSTEM ON THE DISTRIBUTION OF THE ACTIVE PRINCIPLES OF SUPRARENAL GLANDS

Our studies of the sympathetic nervous system have demonstrated what an important part this system plays upon the innervation of the suprarenal cortical cells, influencing the distribution to the general system from the suprarenal gland, of this active principle, or hormone.

The metabolism of the cells of the entire body, and the biochemical change which actually takes place, not only in the normal cell, from day to day, but the cell that is passing through a transitional stage into that stage which we choose to term a malignant one, are of paramount importance. A study along these lines will be reported later.

REACTION OF ACTIVE PRINCIPLE OF SUPRARENAL GLANDS ON CELLS OF DIFFERENT CANCER TYPES

The relationship between the type of malignancy and the reaction of this active principle upon malignant tissue, is an interesting study. In studies in our laboratories and clinics, we have observed that cells constituting the high grade malignancy are more easily affected by small doses of the extract than the cells constituting the low grade malignancy, even though larger doses are given.

LIPOID METABOLISM IN RELATION TO MALIGNANT GROWTHS

Evidence has been presented which caused us to believe that there might be some relationship between the sterol or lipoid metabolism and malignant growths. Together with the loss of weight, loss of appetite, general run-down condition and acidosis, associated with all malignancies, we found

there was an increase in the amount of cholesterol in the circulation of the blood. It has been shown by other investigators that there is a definite link between the adrenal gland and the action of cholesterol in the body, and that the adrenal gland acts as a storehouse for the cholesterol esters. A line of investigation was then instituted to determine the effect of the extract on the blood cholesterol of normal animals.

Rabbits were selected for this particular experiment and it was found that our extract caused a fall of the total blood cholesterol of about 12 per cent, while the maximum drop was reached about sixteen hours after the injection of the extract.

This observation was considered of great importance, in view of the work of Cook of the Cancer Free Hospital in London, particularly due to the fact that deoxycholic and cholic acid, both by-products of cholesterol, under laboratory conditions comparable to the metabolic processes of the human body are transformed into methylcholanthrene, which is considered the most potent carcinogenic agent we have.

IMPORTANCE OF THE INDIRECT CONTROL OF CARCINOGENIC SUBSTANCE OUTPUT BY SUPRARENAL CORTEX PRINCIPLES

The proof of the indirect control of the output of this carcinogenic substance by the stabilizing or governing chemical action of the suprarenal cortex—no doubt, in concert with other pertinent endocrines—will furnish the connecting link in the explanation of the cause of malignancy; thus substantiating our original hypothesis that cancer is constitutional.

BEARD'S BIOCHEMICAL STUDIES OF AUTHORS' AQUEOUS EXTRACTS OF THE SUPRARENAL GLAND

Beard, of the Louisiana State University, in his biochemical study and analysis of our extract, has isolated a compound in crystalline form, which work will be reported and published at an early date.

INFLUENCE OF CORTICAL SUBSTANCE EXTRACT ON ADDISON'S DISEASE

We have also produced in our laboratories another potent aqueous extract from the cortical substance, which has been demonstrated in cases of Addison's disease, at the Southern Pacific General Hospital. This extract differs from our original extract, and its bioassay shows it to be more potent than any comparable extract now in use, for treatment of Addison's disease.

Our aqueous extract is not used in Addison's disease or other allied diseases.

EXTRACTS OF OTHER INVESTIGATORS

The extract formerly used by Pfiffner and Swingle and other research workers, as you will recall, was *not* an aqueous extract, but lipoid soluble, and has been changed by them to an aqueous extract, subsequent to the publication of our research work on the development of our aqueous extract.

IMPORTANCE OF CAREFUL pH CONTROL IN MAKING SUPRARENAL EXTRACTS

Explaining the different potencies of the various extracts, reports of which have been published from time to time in scientific journals, as Beard, our biochemist, has pointed out, a very important fact should be recognized, namely, the very careful control of the hydrogen ion concentration, or the pH at all stages during the extraction and preparation of the final product.

STUDIES ON TRANSPLANTED TUMORS IN RAREFIED ATMOSPHERES

In the light of the work of Warburg of Berlin and Sundstrom of the University of California, in their studies on transplanted tumors in rarefied artificial atmospheres, comparable to those of 25,000 to 30,000 feet altitude, we are carrying on experiments in atmospheres under pressure, in apparatus designed by us, in an effort to produce a deficiency or an imbalance in the endocrine system by keeping rats in different increased atmospheric pressures, endeavoring to produce spontaneous malignancies by means of noncarcinogenic irritants. A report of this study will be given later.

VITAMINS AS ETIOLOGIC FACTORS IN MALIGNANCIES

No evidence has been obtained that the known vitamins, with one possible exception, have any definite relationship to the cause of malignancy. It is a recognized fact, according to the work of Szent Gyorgi, that vitamin C, or hexuronic acid, is found in the cortex of the suprarenal gland. Our biochemist has been unable to isolate hexuronic acid, during the process of preparing our extract, due to the fact that hexuronic acid oxidizes very easily, and is lost in the steps of the heating process required in the first part of our method for making our extract.

Schröder of Munich has demonstrated that in malignancy the hexuronic content is found to be low, and it is also found that the suprarenal cortex is the richest center of vitamin C in the human body. The pituitary also is rich in vitamin C.

A method was devised in our laboratory for using hexuronic acid in conjunction with our extract, supracorcin, in cases of malignancy, giving doses as high as three hundred milligrams per day to an individual case. Data collected to date from these cases do not show any conclusive change which could be attributed to the administration of the hexuronic acid, or vitamin C, given in addition to our extract. We are continuing its use in further research.

USE OF SUPRARENAL EXTRACTS, TO AID OTHERWISE HOPELESS CASES, IN ORDER TO MAKE THEM MORE AMENABLE TO SURGICAL PROCEDURES

Certain types of these patients previously considered poor surgical risks have been brought back to surgery by the use of our aqueous extract. As early as 1930, we observed the striking effect our extract had in preventing surgical shock, in the group of patients to whom we were giving surgical assistance, even though the operative procedure was prolonged. It was generally noted that these patients recovered from operative procedures, (such as those in which the Percy cautery was used,) much better than patients undergoing routine surgical work.

These types of cases, such as "frozen" pelvis or broken-down breasts, can frequently be brought back for successful surgical interference by the use of the extract and especially when the surgery is done with Percy cautery. This is particularly true in the far advanced patients with breast cancer.

These are the sufferers where skin flaps cannot be hopefully striven for—indeed the final results are better without them. Following the Percy technique, we have remarkably rapid granulation of the operated area, free drainage, and the lack of metastases, especially in the skin with its certain closing of the lymphatic channels.

We are convinced that the pre- and postoperative employment of the extract, as said before, prevent possible shock following extensive cautery removal of the malignant soft tissues, especially if the adrenals should become affected as they sometimes are following sunstroke.

We likewise observed in these squamous and basal cell malignancies of the skin, that the use of the extract with the cautery results in quicker healing than the use of either separately.

From our experience with these far-advanced breast cases, we are of the belief that Percy's teaching that flaps in breast amputations encourage the redevelopment of the cancer cells that are sheltered by them is correct. This is particularly true in the Halstead type of operation where the flaps furnish ideal conditions for the further culture of the malignant cells that may be left, furnishing pabulum, shelter, moisture, rest and temperature.

With the lymphatics destroyed by the cautery heat, we have not observed recurrences or metastases through what otherwise would be open lymphatic channels. In addition, since we have followed the Percy method as outlined above, we have had no recurrences in or on the cauterized surfaces.

INFLUENCE OF SUPRARENAL EXTRACTS ON TISSUE REGENERATION

Patients were sent to our clinics with a surgical, or surgical and x-ray diagnosis of gastrointestinal malignancy, but without biopsies, and were classified as ulcer or nonmalignant cases. Many of them were not amenable to dietetic treatment or operative procedure; hence, they were given our extract and the major portion of these cases showed improvement when x-rays were taken, from three to six months later, demonstrating that our extract was apparently exercising its efficacy to regenerate tissue.

OBSERVATIONS OF INFLUENCE OF SUPRARENAL EXTRACT ON SPECIAL SYMPTOMS AND SIGNS

We have observed that, with the use of our extract, the feeling of languidness and fatigue, particularly with cancer patients who belong to the aged or prematurely aged, is greatly improved.

Many malignant cases have a cachexia due to anemia, probably resulting from the absorption of toxins. The extract produces, in a majority of these patients, a disappearance of this anemia with cachexia.

We have demonstrated that liver extract will not affect the anemia of malignant cases, but rather under this therapy the anemia is increased.

We might call your attention to other symptomatic observations in these advanced patients, such as gain in weight, improvement of blood picture, and the feeling of general well-being. There is no doubt the morale of the patients and the feeling of well-being are greatly improved.

With the improvement of appetite and eating, naturally weight increases, as evidenced by the following table:

EFFECT ON WEIGHT

Net gain in weight	48.7 per cent
Net loss in weight	29.5 per cent
No change in weight	21.7 per cent

The following table, compiled from the data obtained from the charts of cases in our clinics, gives an accurate percentage as to the sense of general well-being experienced by the patients:

EFFECT ON SENSE OF WELL-BEING

Improved	75.5 per cent
Worse	12.02 per cent
No change in well-being	12.3 per cent
Doubtful as to change	.06 per cent

In some cases of blood pressure, the extract acted as a stabilizer, probably not *per se*. The action of the cortex is a vasodilator, and the medulla, a vasoconstrictor. This may explain why, in many instances, there is relief of pain in these malignant cases, as evidenced by the following table:

EFFECT ON PAIN

Pain greatly or entirely relieved	65.3 per cent
Never had any pain	12.07 per cent
Pain not relieved	21.05 per cent
Doubtful regarding relief of pain	13.02 per cent

Most of you are familiar with the disagreeable odor which accompanies a large majority of cases of inoperable carcinoma. After a few months' use of the extract, it was observed that this odor often disappeared. It was likewise observed, by rela-

TABLE 1.—*Class 1—Deceased Patients*

	Number of Patients
Group 1.—Patients who lived three months but less than one year	640
Group 2:—Patients who lived one year but less than two years	292
Group 3.—Patients who lived two years but less than three years	105
Group 4.—Patients who lived three years but less than four years	37
Group 5.—Patients who lived four years but less than five years	19
Group 6.—Patients who lived five years but less than six years	1
Total	1,094

tives of patients, and commented upon by them, that the characteristic repulsive odor disappeared with the use of the extract.

TYPE OF PATIENTS TREATED IN AUTHORS' CLINICS

We wish to emphasize that all patients received in our clinics in the past five years have been hopeless cases, presenting, at the time of admission to the clinics, letters from physicians, stating that all accepted methods of treatment had been used without avail, and that the prognosis was considered hopeless with present usage.

AUTHORS' FIVE YEARS' STUDIES AND GESCHICKTER CRITERIA

In making our tabulations for this five-year clinical research effort to comply with the Geschickter criteria, in studying the value of our extract, we have advisedly and definitely eliminated from our statistics, as to final results, all patients who did not receive the benefit of at least thirty injections, for the obvious reason that they were moribund at the time of arrival at our clinics, and a large percentage of these terminal cases died with intercurrent diseases.

ACTION OF SUPRARENAL EXTRACT ON MALIGNANCIES PREVIOUSLY TREATED BY ROENTGEN THERAPY

We have studied the influence of the roentgen rays upon the adrenal gland, and have observed,

TABLE 2.—*Class 2—Inactive (traced)—Group 2—More than one year has elapsed, but less than two years, since the patients in this group, all of whom are living, were admitted to the clinics. Method of diagnosis, metastases, location, type and sex; five cases.*

Number	Male	Female	Type	Location	Metastases Yes	Metastases No	Diagnosis Biopsy	Diagnosis X-Ray	Diagnosis Surg.
3	..	3	Adenocarcinoma	Breast	3	..	3	..	3
1	1	..	Epidermoid carcinoma	Lip	..	1	1	..	1
1	1	..	Epidermoid carcinoma	Tongue	1	..	1	..	..

TABLE 3.—*Class 2—Inactive (traced)—Group 3—More than two years have elapsed, but less than three years, since the patients in this group, all of whom are living, were admitted to the clinics. Method of diagnosis, metastases, location, type and sex; ten cases.*

Number	Male	Female	Type	Location	Metastases Yes	Metastases No	Diagnosis Biopsy	Diagnosis X-Ray	Diagnosis Surg.
3	..	3	Adenocarcinoma	Breast	1	2	3	..	3
1	..	1	Epidermoid carcinoma	Cervix	..	1	1	..	..
1	1	..	Epidermoid carcinoma	Esophagus	..	1	..	1	..
1	1	..	Epidermoid carcinoma	Lip	..	1	1	..	1
1	..	1	Adenocarcinoma	Rectum	..	1	1	..	1
1	1	..	Adenocarcinoma	Stomach (pylorus)	..	1	..	1	1
1	..	1	Basal cell carcinoma	Temporal region	..	1	1	..	1
1	..	1	Adenocarcinoma	Uterus	..	1	1	..	1

TABLE 4.—*Class 2—Inactive (traced)—Group 4—More than three years have elapsed, but less than four years, since the patients in this group, all of whom are living, were admitted to the clinics. Method of diagnosis, metastases, location, type and sex; eight cases.*

Number	Male	Female	Type	Location	Metastases Yes	Metastases No	Diagnosis Biopsy	Diagnosis X-Ray	Diagnosis Surg.
3	..	3	Adenocarcinoma	Breast	2	1	2	..	2
2	..	2	Epidermoid carcinoma	Breast	2	..	2	1	1
1	1	..	Adenocarcinoma	Colon (sigmoid flexure)	..	1	1	..	1
1	..	1	Adenocarcinoma	Stomach (pylorus)	..	1	..	1	1
1	1	..	Adenocarcinoma	Thyroid	1	..	1	..	1

TABLE 5.—*Class 2—Inactive (traced)—Group 5—More than four years have elapsed, but less than five years, since the patients in this group, all of whom are living, were admitted to the clinics. Method of diagnosis, metastases, location, type and sex; twenty-three cases.*

Number	Male	Female	Type	Location	Metastases Yes	Metastases No	Diagnosis Biopsy	Diagnosis X-Ray	Diagnosis Surg.
1	1	..	Carcinoma	Bladder	..	1	1	..	1
3	..	3	Adenocarcinoma	Breast	1	2	3	1	3
1	..	1	Adenocarcinoma	Cervix	..	1	1	..	1
1	1	..	Epidermoid carcinoma	Cheek	..	1	1	..	1
2	1	1	Adenocarcinoma	Colon (sigmoid flexure)	..	2	1	1	1
1	1	..	Basal cell carcinoma	Eyelid	..	1	1	..	1
1	1	..	Epidermoid carcinoma	Face	..	1	1	..	..
1	1	..	Epidermoid carcinoma	Forehead	..	1	1	..	..
2	1	1	Basal cell carcinoma	Lip	1	1	2	..	..
1	..	1	Adenocarcinoma	Ovary	..	1	1	..	1
1	..	1	Adenocarcinoma	Rectum	..	1	1	..	..
3	2	1	Adenocarcinoma	Stomach	3	..	1	3	3
2	..	2	Adenocarcinoma	Stomach (pylorus)	..	2	..	2	1
2	..	2	Adenocarcinoma	Uterus	..	2	2	..	2
1	1	..	Basal cell carcinoma	Temple	..	1	1	..	1

TABLE 6.—*Class 2—Inactive (traced)—Group 6—More than five years have elapsed since the patients in this group, all of whom are living, were admitted to the clinics. Method of diagnosis, metastases, location, type and sex; fifty-six cases.*

Number	Male	Female	Type	Location	Metastases Yes	Metastases No	Diagnosis Biopsy	Diagnosis X-Ray	Diagnosis Surg.
1	..	1	Osteogenic sarcoma	Antrum	..	1	1	..	1
1	..	1	Melanosarcoma	Back	..	1	1	..	1
2	2	..	Carcinoma	Bladder	..	2	2	..	1
7	..	7	Adenocarcinoma	Breast	5	2	7	2	5
5	..	5	Epidermoid carcinoma	Cervix	2	3	5	..	4
1	1	..	Epidermoid carcinoma	Cheek	..	1	1	..	..
1	..	1	Adenocarcinoma	Colon	1	..	..	1	1
1	..	1	Adenocarcinoma	Colon (sigmoid flexure)	1	..	1	1	..
5	4	1	Epidermoid carcinoma	Ear	..	5	5	..	3
4	3	1	Epidermoid carcinoma	Face	1	3	3	1	1
1	1	..	Epidermoid carcinoma	Forearm	..	1	1	..	..
1	..	1	Epidermoid carcinoma	Forehead	..	1	1	..	1
1	..	1	Spindle cell fibrosarcoma	Foot	..	1	1	..	1
1	..	1	Carcinoma	Glands (cervical)—met.	1	..	1	..	1
1	..	1	Carcinoma	Glands (peritoneal)—met.	1	..	1	..	1
1	1	..	Sarcoma	Larynx	..	1	1	..	..
1	1	..	Epidermoid carcinoma	Lips	..	1	1	..	..
1	1	..	Basal cell carcinoma	Nose	..	1	1	..	..
1	..	1	Epidermoid carcinoma	Nose	..	1	1	..	1
2	..	2	Adenocarcinoma	Ovary	..	2	2	..	2
1	1	..	Sarcoma	Pubes	..	1	..	1	..
4	2	2	Adenocarcinoma	Rectum	..	4	3	..	3
1	..	1	Epidermoid carcinoma	Scalp	..	1	1	..	1
6	3	3	Adenocarcinoma	Stomach	1	5	1	5	3
1	1	..	Adenocarcinoma	Stomach (pylorus)	1	..	..	1	1
1	..	1	Sarcoma	Stomach	..	1	..	1	1
1	1	..	Embryonal carcinoma	Testicle	1	..	1	..	1
1	1	..	Epidermoid carcinoma	Tongue	..	1	1	..	1
1	..	1	Adenocarcinoma	Uterus	..	1	1	..	1

as shown by tabulations, that where the roentgen rays had been used, the potency of the extract was greatly lessened.

We wish to repeat that our experimental research effort has been upon only hopeless and dying people. The research effort of our theoretical views, as originally expounded in our report of September, 1930, can be demonstrated by these tabulations and a review of our clinical charts.

PRESENT CANCER MORTALITY FIGURES AND CURE PERCENTAGES, WHEN ALL TYPES OF CASES ARE INCLUDED

The reports made by other investigators and cancer research clinics show that cancer can be

TABLE 7.—*Class 2—Inactive (untraced)—Group 1—More than three months have elapsed, but less than one year, since the only patient in this group, who was living when last heard from, was admitted to the clinics. Method of diagnosis, metastases, location, type and sex; one case.*

Number	Male	Female	Type	Location	Metastases Yes	Metastases No	Diagnosis Biopsy	Diagnosis X-Ray	Diagnosis Surg.
1	1	..	Adenocarcinoma	Rectum	1	..	1	..	1

TABLE 8.—*Class 2—Inactive (untraced)—Group 2—More than one year has elapsed, but less than two years, since the patients in this group, all of whom were living when last heard from, were admitted to the clinics. Method of diagnosis, metastases, location, type and sex; sixteen cases.*

Number	Male	Female	Type	Location	Metastases Yes	Metastases No	Diagnosis Biopsy	Diagnosis X-Ray	Diagnosis Surg.
3	..	3	Adenocarcinoma	Breast	2	1	3	..	1
2	..	2	Epidermoid carcinoma	Cervix	..	2	2	..	1
1	..	1	Adenocarcinoma	Colon (sigmoid flexure)	..	1	1	..	1
1	1	..	Basal cell carcinoma	Larynx	1	..	1	..	1
1	1	..	Epidermoid carcinoma	Mouth	1	..	1	..	..
2	2	..	Lymphosarcoma	Neck	1	1	2	..	..
1	..	1	Epidermoid carcinoma	Nose	..	1	1	..	1
1	1	..	Adenocarcinoma	Pancreas	..	1	..	1	1
1	1	..	Adenocarcinoma	Prostate	1	..	..	1	1
1	1	..	Adenocarcinoma	Rectum	..	1	1	..	..
1	1	..	Adenocarcinoma	Stomach	1	..	1	..	1
1	..	1	Hodgkin's disease	.....	..	1	1	..	..

TABLE 9.—*Class 2—Inactive (untraced)—Group 3—More than two years have elapsed, but less than three years, since the patients in this group, all of whom were living when last heard from, were admitted to the clinics. Method of diagnosis, metastases, location, type and sex; twenty-three cases.*

Number	Male	Female	Type	Location	Metastases Yes	Metastases No	Diagnosis Biopsy	Diagnosis X-Ray	Diagnosis Surg.
3	..	3	Adenocarcinoma	Breast	3	..	3	..	3
1	..	1	Adenocarcinoma	Cervix	1	..	1	..	..
1	..	1	Epidermoid carcinoma	Cervix	..	1	1	..	..
1	1	..	Adenocarcinoma	Colon	..	1	1	..	..
1	1	..	Lymphosarcoma	Elbow	1	..	1	..	..
2	2	..	Epidermoid carcinoma	Esophagus	1	1	1	..	1
1	..	1	Sarcoma	Femur	1	..	..	1	..
1	..	1	Adenocarcinoma	Glands (cervical)—met.	1	..	1	..	1
2	2	..	Epidermoid carcinoma	Lip	1	1	2	..	1
1	1	..	Carcinoma (adamantinoma)	Maxilla	1	..	1	..	1
1	1	..	Basal cell carcinoma	Nose	..	1	1	..	..
1	..	1	Adenocarcinoma	Rectum	..	1	1	..	..
1	1	..	Epidermoid carcinoma	Sinus	1	..	1	..	..
2	1	1	Epidermoid carcinoma	Skin	..	2	2	..	1
2	2	..	Adenocarcinoma	Stomach	..	2	..	2	..
1	..	1	Adenocarcinoma	Uterus	..	1	1	..	1
1	1	..	Hodgkin's disease	.....	..	1	1	..	..

cured only when taken early. Statistics compiled by leading investigators show that there are now somewhere between 120,000 and 150,000 deaths yearly. With these tragic figures before us, if we are looking for results from five years' treatment of all types of cases, early and late, we cannot avoid growing pessimistic regarding the efficacy of present usage.

TABLE 10.—*Class 2—Inactive (untraced)—Group 4—More than three years have elapsed, but less than four years, since the patients in this group, all of whom were living when last heard from, were admitted to the clinics. Method of diagnosis, metastases, location, type and sex; thirty-seven cases.*

Number	Male	Female	Type	Location	Metastases Yes	Metastases No	Diagnosis Biopsy	Diagnosis X-Ray	Diagnosis Surg.
2	2	..	Carcinoma	Bladder	2	..	2	..	1
14	..	14	Adenocarcinoma	Breast	9	5	13	2	10
1	..	1	Epidermoid carcinoma	Cervix	1	..	1	..	1
1	1	..	Adenocarcinoma	Colon (sigmoid flexure)	..	1	1	..	..
1	1	..	Basal cell carcinoma	Face	..	1	1	..	1
1	1	..	Epidermoid carcinoma	Larynx	..	1	1	..	..
1	1	..	Epidermoid carcinoma	Lip	..	1	1	..	..
2	1	1	Epidermoid carcinoma	Nose	1	1	2	..	1
1	1	..	Mixed tumor	Parotid gland	1	..	1	..	1
4	3	1	Adenocarcinoma	Rectum	..	4	4	..	1
2	2	..	Epidermoid carcinoma	Skin	2	..	1	..	1
1	1	..	Melanoma	Skin	1	..	1	..	..
2	2	..	Adenocarcinoma	Stomach	2	..	..	2	1
1	..	1	Adenocarcinoma	Stomach (pylorus)	..	1	..	1	..
2	2	..	Epidermoid carcinoma	Tongue	1	1	2	..	1
1	1	..	Epidermoid carcinoma	Tonsil	..	1	1	..	..

TABLE 11.—*Class 2—Inactive (untraced)—Group 5—More than four years have elapsed, but less than five years, since the patients in this group, all of whom were living when last heard from, were admitted to the clinics. Method of diagnosis, metastases, location, type and sex; forty-six cases.*

Number	Male	Female	Type	Location	Metastases Yes	Metastases No	Diagnosis Biopsy	Diagnosis X-Ray	Diagnosis Surg.
1	1	..	Adenocarcinoma	Antrum	1	..	1	..	1
1	1	..	Sarcoma	Antrum	..	1	..	1	1
11	..	11	Adenocarcinoma	Breast	10	1	11	2	10
4	..	4	Adenocarcinoma	Cervix	..	4	3	..	1
4	..	4	Epidermoid carcinoma	Cervix	..	4	3	..	1
1	..	1	Adenocarcinoma	Cheek	..	1	1	..	1
1	..	1	Basal cell carcinoma	Cheek	..	1	1	..	..
1	1	..	Epidermoid carcinoma	Cheek	1	..	1	..	1
1	..	1	Adenocarcinoma	Colon (ascending)	1	..	..	1	1
2	2	..	Epidermoid carcinoma	Esophagus	..	2	1	1	..
1	..	1	Hypernephroma	Kidney	1	..	1	..	1
1	1	..	Epidermoid carcinoma	Lip	..	1	1	..	1
1	..	1	Adenocarcinoma	Ovary	1	..	1	1	1
1	..	1	Basal cell carcinoma	Parotid	..	1	1	..	1
1	1	..	Epidermoid carcinoma	Penis	..	1	1	..	1
2	2	..	Adenocarcinoma	Rectum	..	2	2	..	1
1	1	..	Epidermoid carcinoma	Scapula (skin)	1	..	1	1	1
4	3	1	Adenocarcinoma	Stomach	1	3	..	3	3
1	1	..	Adenocarcinoma	Stomach (lesser curvature)	..	1	..	1	..
2	1	1	Fibrosarcoma	Thigh	..	2	2	..	2
1	..	1	Round cell sarcoma	Umbilicus	1	..	..	1	1
1	..	1	Epidermoid carcinoma	Urethra	..	1	1	..	1
2	..	2	Adenocarcinoma	Uterus	..	2	2	..	2

DR. JAMES EWING'S REPORT TO THE 1933 INTERNATIONAL CONGRESS ON CANCER

James Ewing, one of the outstanding cancer pathologists living today, in his report before the International Congress of Cancer, held in Madrid, 1933, as quoted in its proceedings, said in his conclusion:

"The present rate of cure varies widely in different types of the disease, but it is probably safe to estimate that not more than 5 per cent of the cancer cases live more than five years, while with the major forms of the disease the eventual mortality runs between 95 and 100 per cent.

"There is no reasonable ground whatever for assuming that any new curative agent or method will be found in the near future which will alter these conditions."

In the light of Doctor Ewing's opinion, just quoted, we feel hopeful in presenting these tables and statistics, compiled, not from early cases where the opportunities to benefit the patients are immeasurably greater, but from the hopeless cases that have been treated in our clinics during the past five years.

AUTHORS' RESULTS IN HOPELESS CASES, AS NOTED IN FIVE-YEAR SURVEY

At the end of five years of painstaking work under the most trying conditions, confined exclusively to hopeless cancer patients, and having studiously complied with the requirements of the Geschickter criteria, we are greatly encouraged, and the data compiled from our records, as you will see, seem to warrant us in stating that our aqueous extract, to which we have given the name, supracorcin, has benefited as large or a larger percentage of hopeless cases as any other treatment known to us.

OBSERVATIONS OF LIVING PATIENTS AND THEIR CLINICAL RECORDS

We feel it is of essential importance to substantiate our clinical data with living evidence. In our clinic in the Medical Building, 909 Hyde Street, just across the street from the St. Francis Hospital, we have assembled from California and adjacent states, representative cases of different types of cancer referred to in this paper. Many of these patients will verify that they were admitted to our clinics over five years ago.

TABLE 12.—*Class 2—Inactive (untraced)—Group 6—More than five years have elapsed since the patients in this group, all of whom were living when last heard from, were admitted to the clinics. Method of diagnosis, metastases, location, type and sex; fifty cases.*

Number	Male	Female	Type	Location	Metastases Yes	Metastases No	Diagnosis Biopsy	Diagnosis X-Ray	Diagnosis Surg.
5	..	5	Adenocarcinoma	Breast	3	2	4	1	5
2	..	2	Epidermoid carcinoma	Cervix	1	1	1	..	1
3	2	1	Epidermoid carcinoma	Ear	2	1	3	..	1
1	1	..	Epidermoid carcinoma	Eye (orbit)	1	..	..	1	1
1	..	1	Basal cell carcinoma	Face	..	1	1	..	1
1	1	..	Epidermoid carcinoma	Face	..	1	1	..	..
1	..	1	Fibrosarcoma	Femur	..	1	1	..	1
1	1	..	Epidermoid carcinoma	Forehead	..	1	1	..	1
1	..	1	Epidermoid carcinoma	Hand	..	1	1	..	1
2	2	..	Epidermoid carcinoma	Larynx	..	2	2	..	1
1	1	..	Epidermoid carcinoma	Lip	..	1	1	..	..
1	..	1	Sarcoma	Maxilla	1	..	1	..	1
1	1	..	Epidermoid carcinoma	Mouth	1	..	..	1	1
1	..	1	Basal cell carcinoma	Nose	..	1	1	..	1
3	1	2	Epidermoid carcinoma	Nose	1	2	2	..	2
1	..	1	Adenocarcinoma	Ovary	..	1	1	..	1
1	1	..	Epidermoid carcinoma	Parotid	..	1	1	..	1
3	3	..	Adenocarcinoma	Prostate	1	2	2	1	3
6	3	3	Adenocarcinoma	Rectum	2	4	6	..	3
1	1	..	Fibrosarcoma	Rectum	..	1	1	..	1
1	..	1	Sarcoma	Skull	..	1	..	1	..
6	5	1	Adenocarcinoma	Stomach	3	3	..	6	6
1	1	..	Adenocarcinoma	Stomach (greater curvature)	..	1	..	1	1
1	1	..	Lymphosarcoma	Thigh	1	..	1	..	1
1	1	..	Epidermoid carcinoma	Tongue	..	1	1	..	..
1	1	..	Embryonal carcinoma	Testicle	1	..	1	..	..
1	..	1	Adenocarcinoma	Uterus	1	..	..	1	1
1	..	1	Epidermoid carcinoma	Uterus	..	1	1	..	1

TABLE 13.—*Class 3—Active—Group 1—More than three months have elapsed, but less than one year, since the patients in this group, all of whom are receiving treatment at present, were admitted to the clinics. Method of diagnosis, metastases, location, type and sex; eighteen cases.*

Number	Male	Female	Type	Location	Metastases Yes	Metastases No	Diagnosis Biopsy	Diagnosis X-Ray	Diagnosis Surg.
6	..	6	Adenocarcinoma	Breast	6	..	6	5	6
1	..	1	Adenocarcinoma	Cervix	..	1	1	..	1
3	..	3	Epidermoid carcinoma	Cervix	1	2	2	1	1
1	1	..	Epidermoid carcinoma	Cheek	..	1	1	..	1
1	..	1	Epidermoid carcinoma	Forehead	..	1	1	..	1
1	..	1	Epidermoid carcinoma	Labia minor	..	1	1	..	1
1	1	..	Basal cell carcinoma	Nose	..	1	1	..	1
2	..	2	Adenocarcinoma	Stomach	..	2	..	2	1
1	..	1	Adenocarcinoma	Uterus	1	..	1	1	1
1	1	..	Hodgkin's disease	.....	..	1	1	..	..

You are cordially invited and urged to step across the street, after the presentation of the clinical data, which will follow, and see these patients, talk with them, examine them, inspect their clinical records, and evaluate fully, for yourselves, the validity of the data which we have briefly outlined.

Doctor MacNevin, Director of the San Francisco Clinic, will give you every assistance during your observation of these patients.

* * *

PART II

ANALYSIS OF CLINICAL MATERIAL: WITH THIRTY-FOUR TABLES

GROUP CLASSIFICATION OF PATIENTS INCLUDED IN REPORT

The patients who have been registered in our clinics in the last five years, first, have been segregated into different classes relative to the length of time they were members and then receiving extract or being under our care, having returned home to have the extract administered to them by their own physicians, who are coöperating with us; second, those patients who have been members of our clinics and have discontinued the use of the extract; and third, those patients who have died. Five hundred and forty-eight patients presented themselves to the clinics, applying for admission, but were not admitted because of the lack of fulfillment of the requirements.

TOTAL NUMBER PATIENTS ADMITTED TO CLINICS: MINIMUM NUMBER OF TREATMENTS NECESSARY TO OBTAIN RESULTS

Since the organization of the Coffey-Humber clinics in February, 1930, 7,513 patients, suffering from malignancy of some form, have been registered for treatment. Each one of these cases fulfilled all the requirements for admission.

As has already been brought out, it has been considered necessary for patients to receive at least thirty injections of the extract before any definite or beneficial results can be expected, other than the relief of pain in many cases, after only a few injections.

SPECIAL GROUP OF PATIENTS WITH MALIGNANCIES SO FAR ADVANCED AS TO MAKE IMPOSSIBLE MINIMUM TREATMENTS REQUIRED

For this reason, those patients having been admitted to our clinics in such a critical condition

TABLE 14.—*Class 3—Active—Group 2—More than one year has elapsed, but less than two years, since the patients in this group, all of whom are receiving treatment at present, were admitted to the clinics. Method of diagnosis, metastases, location, type and sex; sixteen cases.*

Number	Male	Female	Type	Location	Metastases Yes	Metastases No	Diagnosis Biopsy	Diagnosis X-Ray	Diagnosis Surg.
5	..	5	Adenocarcinoma	Breast	3	2	3	..	5
1	1	..	Carcinoma	Glands (retroperitoneal)—metastatic	1	..	1	..	1
1	1	..	Epidermoid carcinoma	Nose	..	1	1	..	..
1	..	1	Adenocarcinoma	Ovary	..	1	1	..	..
3	3	..	Adenocarcinoma	Prostate	..	3	3	..	2
1	1	..	Adenocarcinoma	Rectum	..	1	1	..	1
2	2	..	Adenocarcinoma	Stomach	..	2	1	1	1
1	1	..	Teratoma	Testicle	..	1	1	..	1
1	1	..	Hodgkin's disease	.....	..	1	1	..	..

are considered in a special group. In this group of 3,782 patients are placed all those whose condition was so far advanced that they succumbed from the malignancy from which they were suffering or from intercurrent diseases in spite of all our efforts to prolong life a sufficient length of time to allow them to receive at least thirty injections of the extract.

PREVIOUS X-RAY THERAPY IN THIS GROUP: RELIEF OF PAIN FROM USE OF EXTRACT

Naturally, according to our theory, if a deficiency of the adrenal cortices is further increased

TABLE 15.—*Class 3—Active—Group 3—More than two years have elapsed, but less than three years, since the patients in this group, all of whom are receiving treatment at present, were admitted to the clinics. Method of diagnosis, metastases, location, type and sex; fourteen cases.*

Number	Male	Female	Type	Location	Metastases Yes	Metastases No	Diagnosis Biopsy	Diagnosis X-Ray	Diagnosis Surg.
4	..	4	Adenocarcinoma	Breast	2	2	3	..	3
3	..	3	Epidermoid carcinoma	Cervix	..	3	3	..	1
1	..	1	Adenocarcinoma	Colon	..	1	1	..	1
1	1	..	Epidermoid carcinoma	Ear	..	1	1	..	1
1	1	..	Epidermoid carcinoma	Hand	..	1	1	..	1
1	..	1	Adenocarcinoma	Ovary	..	1	1	..	1
1	..	1	Adenocarcinoma	Rectum	..	1	1	..	1
1	..	1	Adenocarcinoma	Stomach	..	1	..	1	..
1	..	1	Basal cell carcinoma	Temporal region	..	1	1	..	1

TABLE 16.—*Class 3—Active—Group 4—More than three years have elapsed, but less than four years, since the patients in this group, all of whom are receiving treatment at present, were admitted to the clinics. Method of diagnosis, metastases, location, type and sex; sixteen cases.*

Number	Male	Female	Type	Location	Metastases Yes	Metastases No	Diagnosis Biopsy	Diagnosis X-Ray	Diagnosis Surg.
8	..	8	Adenocarcinoma	Breast	5	3	8	2	8
1	..	1	Epidermoid carcinoma	Cervix	..	1	1	..	1
1	..	1	Adenocarcinoma	Colon	1	..	1	1	..
1	..	1	Lymphosarcoma	Caecum	..	1	1	..	1
1	..	1	Spindle cell sarcoma	Leg	..	1	1	..	1
1	..	1	Carcinoma	Parotid	..	1	1	1	1
1	1	..	Fibrosarcoma	Shoulder	..	1	1	..	1
1	1	..	Basal cell carcinoma	Skin	..	1	1	..	1
1	..	1	Adenocarcinoma	Uterus	..	1	1	..	1

TABLE 17.—*Class 3—Active—Group 5—More than four years have elapsed, but less than five years, since the patients in this group, all of whom are receiving treatment at present, were admitted to the clinics. Method of diagnosis, metastases, location, type and sex; twenty-two cases.*

Number	Male	Female	Type	Location	Metastases Yes	Metastases No	Diagnosis Biopsy	Diagnosis X-Ray	Diagnosis Surg.
2	..	2	Carcinoma	Bladder	..	2	2	..	2
7	..	7	Adenocarcinoma	Breast	7	..	4	5	4
2	..	2	Epidermoid carcinoma	Cervix	..	2	2	..	1
1	1	..	Adenocarcinoma	Colon	1	..	1	..	1
1	..	1	Sarcoma	Ovary	1	..	1	..	1
1	..	1	Endothelioma	Parotid	..	1	1	..	1
1	..	1	Giant cell sarcoma	Scapula	1	..	..	1	..
2	1	1	Epidermoid carcinoma	Skin	..	2	2	..	2
2	1	1	Adenocarcinoma	Stomach	..	2	..	1	1
1	..	1	Adenocarcinoma	Uterus	..	1	1	..	1
1	..	1	Sarcoma	Uterus	..	1	1	..	1
1	1	..	Hodgkin's disease	.....	..	1	1	..	1

TABLE 18.—*Class 3—Active—Group 6—More than five years have elapsed since the patients in this group, all of whom are receiving treatment at present, were admitted to the clinics. Method of diagnosis, metastases, location, type and sex; fifty-one cases.*

Number	Male	Female	Type	Location	Metastases Yes	Metastases No	Diagnosis Biopsy	Diagnosis X-Ray	Diagnosis Surg.
1	..	1	Adenocarcinoma	Abdomen	1	..	1	..	1
1	..	1	Sarcoma	Antrum	..	1	..	1	..
2	2	..	Carcinoma	Bladder	..	2	2	..	1
11	..	11	Adenocarcinoma	Breast	8	3	10	3	8
7	..	7	Epidermoid carcinoma	Cervix	2	5	5	..	5
1	1	..	Adenocarcinoma	Colon (ascending)	..	1	1	1	..
1	..	1	Sarcoma	Colon (descending)	..	1	1	..	1
1	1	..	Basal cell carcinoma	Eyelid	..	1	..	..	1
1	..	1	Epidermoid carcinoma	Foot	..	1	1	..	1
1	..	1	Lymphosarcoma	Glands (cervical)	1	..	1	..	1
1	..	1	Basal cell carcinoma	Hand	1	..	1	..	1
1	1	..	Giant cell sarcoma	Mandible	..	1	..	1	..
1	1	..	Basal cell carcinoma	Nose	1	..	1	1	1
2	..	2	Adenocarcinoma	Ovary	1	1	1	..	2
1	..	1	Papillary cystadenocarcinoma	Ovary	1	..	1	..	1
1	..	1	Angioendothelioma	Parotid	..	1	1	..	1
1	..	1	Adenocarcinoma	Rectum	..	1	1	..	..
1	..	1	Epidermoid carcinoma	Sinus (frontal)	..	1	..	1	1
1	1	..	Alveolar carcinoma	Skin	..	1	1	..	..
5	5	..	Adenocarcinoma	Stomach	1	4	..	4	4
1	..	1	Adenocarcinoma	Stomach (pylorus)	1	..	..	1	..
1	1	..	Embryonal carcinoma	Testicle	..	1	1	..	1
1	..	1	Mixed cell sarcoma	Thigh	1	..	1	1	1
5	..	5	Adenocarcinoma	Uterus	3	2	3	4	5
1	1	..	Hodgkin's disease	.....	..	1	1	..	..

TABLE 19.—*Class 4—Prophylactic—Inactive Traced—This table is composed of patients having had the primary area of involvement totally removed, and, at the time of admission to the clinics, showing no evidence of metastases or recurrence. These patients, at the time of compiling this report, are still free from any clinical evidence of malignancy. Sixteen cases.*

Male	Female	Type	Location	Metastases Yes	Metastases No	Length of Time Since Area of Involvement Was Totally Removed: Years	Months
..	1	Adenocarcinoma	Breast	1	..	5	7
..	1	Adenocarcinoma	Breast	1	..	5	3
..	1	Adenocarcinoma	Breast	1	..	7	..
..	1	Adenocarcinoma	Breast	1	..	6	..
..	1	Adenocarcinoma	Breast	1	..	5	11
..	1	Adenocarcinoma	Breast	..	1	5	6
..	1	Adenocarcinoma	Breast	..	1	4	7
..	1	Adenocarcinoma	Breast	1	..	5	..
..	1	Adenocarcinoma	Breast	..	1	4	11
..	1	Adenocarcinoma	Breast	..	1	5	1
..	1	Adenocarcinoma	Breast	..	1	5	5
..	1	Adenocarcinoma	Fallopian tube	..	1	4	9
..	1	Epidermoid carcinoma	Forehead	..	1	2	10
..	1	Fibrosarcoma	Leg	..	1	5	4
..	1	Epidermoid carcinoma	Uterus	..	1	3	7
..	1	Epidermoid carcinoma	Uterus	..	1	5	2

TABLE 20.—*Class 4—Prophylactic—Inactive (untraced)—This table is composed of patients having had the primary area of involvement totally removed, and, at the time of admission to the clinics, showing no evidence of metastases or recurrence. These patients were living when last heard from. Eleven cases.*

Male	Female	Type	Location	Metastases		Length of Time Since Area of Involvement Was Totally Removed	
				Yes	No	Years	Months
..	1	Adenocarcinoma	Breast	1	..	4	..
..	1	Adenocarcinoma	Breast	..	1	6	8
..	1	Adenocarcinoma	Breast	..	1	1	7
..	1	Adenocarcinoma	Breast	..	1	5	6
..	1	Adenocarcinoma	Breast	..	1	3	10
..	1	Adenocarcinoma	Breast	..	1	5	8
..	1	Adenocarcinoma	Breast	..	1	3	4
..	1	Basal cell carcinoma	Eye (inner canthus)	..	1	4	11
1	..	Epidermoid carcinoma	Lip	..	1	1	1
1	..	Embryonal carcinoma	Testicle	..	1	5	7
..	1	Epidermoid carcinoma	Uterus	..	1	4	11

by a destructive influence of the roentgen rays, the likelihood of an early effect of this extract upon these patients will be greatly lessened, and the possibility of their succumbing either from a malignancy or from intercurrent diseases would also be increased.

The one beneficial result which we feel sure was obtained in this group of cases was the relief of pain, thus making the last days of life more comfortable for these poor unfortunates.

CLASSIFICATION OF PATIENTS RECEIVING MORE THAN THIRTY TREATMENTS

Those patients who were admitted to the clinics who received over thirty injections have been segregated into three classes, with the exception of those falling into special classes, such as prophylactic and ulcer cases. These three classes (deceased, inactive—traced and untraced—and active) were again divided into six groups, ac-

TABLE 21.—*Class 4—Prophylactic—Active—This table is composed of patients having had the primary area of involvement totally removed, and, at the time of admission to the clinics, showing no evidence of metastases or recurrence. These patients at the time of compiling this report are still receiving extract (supracorcin) and are still free from any clinical evidence of malignancy. Twenty cases.*

Male	Female	Type	Loaction	Metastases		Length of Time Since Area of Involvement Was Totally Removed	
				Yes	No	Years	Months
..	1	Adenocarcinoma	Breast	1	..	1	11
..	1	Adenocarcinoma	Breast	..	1	2	3
..	1	Adenocarcinoma	Breast	1	..	3	7
..	1	Adenocarcinoma	Breast	1	..	..	10
..	1	Adenocarcinoma	Breast	1	..	1	1
..	1	Adenocarcinoma	Breast	..	1	5	6
..	1	Adenocarcinoma	Breast	1	..	2	6
..	1	Adenocarcinoma	Breast	..	1	4	3
..	1	Adenocarcinoma	Breast	1	..	3	7
..	1	Adenocarcinoma	Breast	..	1	5	10
1	..	Adenocarcinoma	Breast	..	1	3	5
..	1	Schimmelbusch's disease	Breast	..	1	2	..
..	1	Epidermoid carcinoma	Breast	..	1	5	6
..	1	Epidermoid carcinoma	Cervix	..	1	5	9
1	..	Epidermoid carcinoma	Gum	..	1	1	10
1	..	Epidermoid carcinoma	Lip	..	1	2	..
..	1	Adenocarcinoma	Ovaries	..	1	4	11
..	1	Adenocarcinoma	Ovary	..	1	3	..
..	1	Adenocarcinoma	Uterus	..	1	3	5
..	1	Adenocarcinoma	Uterus	..	1	3	10

TABLE 22.—*Class 5—Ulcer.—This table includes those patients diagnosed by x-ray as having definite ulcers, and those diagnosed as having malignancies of the stomach, although there was some question, at one time or another, in the histories, as to whether or not the existing condition was an ulcer. Ten cases.*

Male	Female	Type	Location	Method of Diagnosis	Pain Relieved Yes	Pain Relieved No	Weight Gain	Weight Loss	Well-being Improved Yes	Well-being Improved No	Apparently Cured. Determined by	Improved	Unimproved	Remarks
x	:	Carcinoma	Stomach	X-ray Surgery	x	:	:	x	:	x	....	x	:	.....
x	:	Carcinoma	Stomach	Surgery	x	:	x	:	x	:	Clinically	:	:	.....
x	:	Carcinoma	Stomach	X-ray	x	:	x	:	x	:	X-ray	:	:	71 years old when discontinued. Had had two strokes.
:	x	Carcinoma	Stomach	X-ray Clinical	x	:	x	:	x	:	Clinically	:	:	.....
x	:	Carcinoma	Stomach—pyloric end.	X-ray	x	:	x	:	x	:	Clinically	:	:	.....
:	x	Carcinoma	Stomach—lesser curvature	X-ray	x	:	x	:	x	:	Clinically	:	:	.....
x	:	Ulcer—probable carcinoma	Duodenum	X-ray	x	:	x	:	x	:	....	x	:	.....
x	:	Ulcer	Duodenum	X-ray	x	:	x	:	x	:	Clinically	:	:	.....
:	x	Ulcer	Duodenum	X-ray	x	:	x	:	x	:	Surgery	:	:	.....
x	:	Ulcer	Stomach	X-ray Clinical	x	:	x	:	x	:	X-ray	:	:	.....

cording to the number of years they lived since being admitted to the clinics.

CLASS I. ON PATIENTS WHO DIED

This class includes those patients who expired after receiving more than thirty injections.

Although these deceased patients are counted as a whole in our malignant group, many of them died with intercurrent diseases, as previously stated. (See Table 1.)

CLASS II. ON PATIENTS WHO DISCONTINUED TREATMENT: SUBGROUPS OF TRACED AND UNTRACED PATIENTS

This group consists of patients who voluntarily discontinued the use of the extract after receiving more than thirty injections. One of the most difficult problems has been to cause the patients to realize that they should continue the use of the extract. It has not been possible to determine how much influence the extract has had upon regenerating the cortical cells and restoring their normal function, although there have been enough patients who have been cleared of malignancy, discontinued the extract, and had recurrence, to establish to a fair degree of certainty that, in these cases, the function of the adrenal cortex has been sufficiently impaired to cause the return of the malignancy, when such a deficiency of the active principle is not supplied therapeutically.

On the other hand, in other patients, it is very probable that the function of the adrenal cortex is not impaired sufficiently to create a deficiency great enough to cause a recurrence unless some added insult to the tissue, such as irritation or trauma, occurs. Many of these patients have received a sufficient amount of the extract to make up for the deficiency and are able to carry on without any change one way or the other.

For this reason, we have been unable to state positively to these patients that they will have a recurrence if they discontinue the use of the extract. Therefore, many patients, because of great improvement in their malignancy, and their general well-being and relief of pain, et cetera, have felt they could afford to discontinue taking the extract for at least a while, and have become inactive in the clinics.

One of the greatest problems of the record department of the clinics has

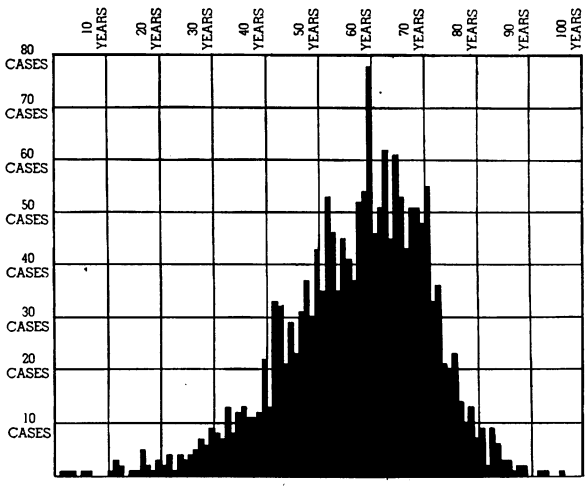

Chart 1.—Age incidence of malignancy in 2,425 patients (male).

been the following up or tracing of these patients who have discontinued; and, although the work has been diligently carried on, there is a large group of patients that has not been heard from for some time, although, when information was last obtained from them, they were living, many of them still clear of any evidence of malignancy, others working, but still showing definite evidence of malignancy, and others in the same condition as when they left the clinics. For this reason, the groups in the discontinued class have been divided into traced and untraced. Those in the traced group include those patients as of February 1 or any later date, when they may have been heard from. (See tables 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12.)

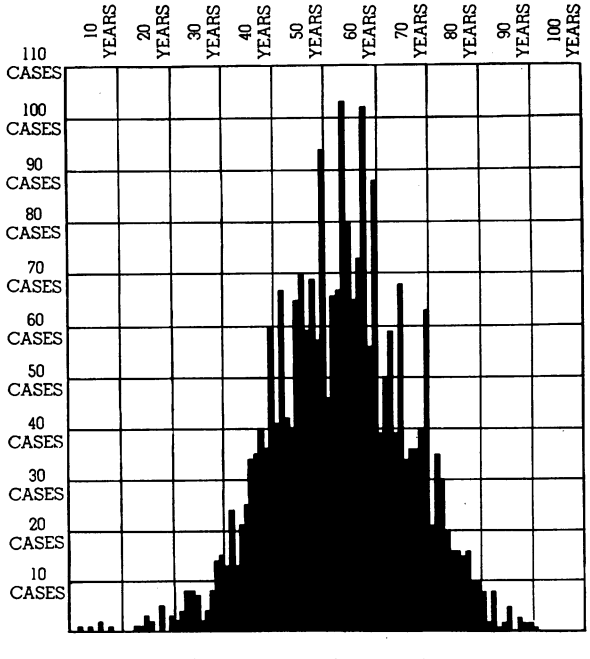

Chart 3.—Age incidence of malignancy in 3,121 patients (female).

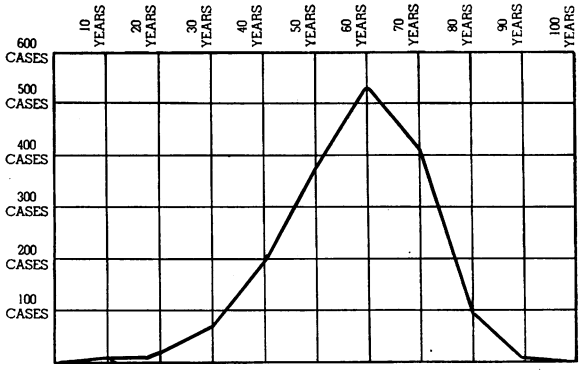

Chart 2.—Age incidence of malignancy in 2,425 patients (male).

CLASS III. ON PATIENTS STILL UNDER TREATMENT: IN CLINICS OR IN THEIR HOMES

This class consists entirely of patients who have continually received the extract since entering the clinics, although some of this number are receiving the extract at home from their own physicians who are coöperating with us in this research work. (See tables 13, 14, 15, 16, 17, and 18.)

CLASS IV. ON PATIENTS PREVIOUSLY TREATED BY SURGICAL METHODS: RECEIVING LATER TREATMENT WITH SUPRARENAL EXTRACT, FOR PROPHYLACTIC PURPOSES

This class is composed of those patients who have had positive diagnosis of malignancy by biopsy with surgical intervention and total removal of the malignancy, and are receiving treatment as a prophylactic measure against recurrence.

In this class are patients with early malignancy of the breast, evidenced in many instances only by a small malignant nodule, and where complete radical operation by surgical measures has been performed.

It is interesting, also, to note in this class, the number of breast cases that had metastatic involvement of the axillary glands at the time of radical surgery. (See tables 19, 20, and 21.)

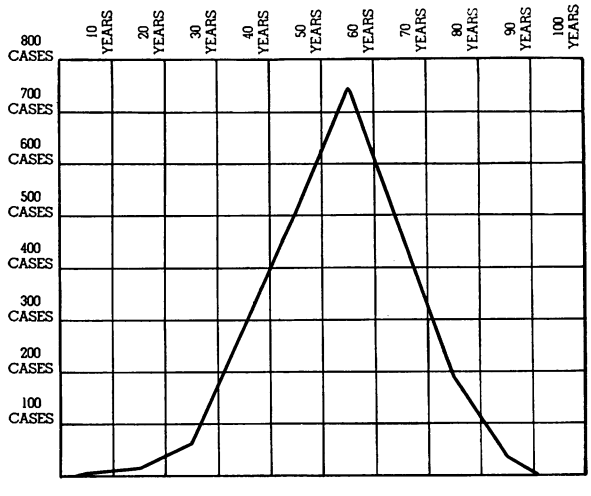

Chart 4.—Age incidence of malignancy in 3,121 patients (female).

TABLE 23.—*Age.—Incidence of Malignancy in 5,546 Patients*

Age	Male	Female	Total
1 to 5 years	3	2	5
5 to 10 years	3	4	7
10 to 15 years	7	3	10
15 to 20 years	13	14	27
20 to 25 years	20	33	53
25 to 30 years	38	44	82
30 to 35 years	56	111	167
35 to 40 years	91	226	317
40 to 45 years	181	326	507
45 to 50 years	219	423	642
50 to 55 years	299	498	797
55 to 60 years	333	479	812
60 to 65 years	398	347	745
65 to 70 years	360	270	630
70 to 75 years	238	202	440
75 to 80 years	106	90	196
80 to 85 years	42	33	75
85 to 90 years	14	13	27
90 to 95 years	3	3	6
95 to 100 years	1	..	1

Average age: 41.4 years.

CLASS V. ON PATIENTS WITH GASTRIC ULCERS AND MALIGNANCIES

This class includes those patients who were diagnosed as having gastric cancers, and others

TABLE 24.—*Metastases in Carcinoma of the Breast—Anatomical Distribution in 505 Patients**

	Number of Cases	Per Cent
Metastases from breast to lungs	125	25.0
Metastases from breast to ribs, sternum, manubrium	54	10.8
Metastases from breast to vertebrae	37	7.4
Metastases from breast to pelvic bones	31	6.2
Metastases from breast to long bones	28	5.6
Metastases from breast to axillary glands	301	60.2
Metastases from breast to clavicular glands	100	20.0
Metastases from breast to cervical glands	51	10.2
Metastases from breast to opposite breast	55	11.0

* The majority of patients had multiple metatases and, therefore, appear in one or more groups. Twenty patients with metastases from the breast to other locations, mostly visceral, are not included.

who were diagnosed as having ulcers not amenable to treatment. The table includes those cases diagnosed by x-ray as definite ulcers and those

TABLE 25.—*Summary of Data Regarding Metastases in All Classes: 1,506 Cases*

	Metastases	
	Yes	No
Class 1.—Deceased	575	519
Class 2.—Inactive (traced and untraced)	106	169
Class 3.—Active (receiving extract at the present time)	52	85
Total	733	773

TABLE 26.—*Surgical Treatment Prior to Admission to the Clinics; Series of 1,506 Cases*

	Number of Patients Who Had Received Surgical Treatment
Class 1.—Deceased	702
Class 2.—Inactive (traced and untraced)	189
Class 3.—Active (receiving extract at the present time)	98
Total	989

diagnosed as malignancies of the stomach, although there was some question, at one time or another, in the histories, as to whether or not an existing condition was an ulcer or a cancer.

One patient reported in this class will illustrate our reason for making this special classification. The patient in question was a man (case number 774), who was diagnosed by surgery in 1928 as having an ulcer of the stomach; in 1931 a diag-

TABLE 27.—*Radium Therapy Prior to Admission to the Clinics; Series of 1,506 Cases*

	Number of Patients Who Had Received Radium Therapy
Class 1.—Deceased	215
Class 2.—Inactive (traced and untraced)	72
Class 3.—Active (receiving extract at the present time)	28
Total	315

nosis of probable carcinoma was made by the Veterans Bureau of the United States Army; and in 1931, x-rays of the lung were reported as showing metastatic growth in the lung. Even in view of the fact that there was an x-ray diagnosis in this case, it is still left in the ulcer group.

Another patient in this group, a woman (case number 785), diagnosed by x-ray as having ulcer of the duodenum in 1933, in one of the well-known hospitals of the United States, had failed to respond to medical treatment over a period of six months. She was then placed upon the extract and the ulcer symptoms disappeared after three months' treatment. Later she developed

TABLE 28.—*X-ray Therapy Prior to Admission to the Clinics; Series of 1,506 Cases*

	Number of Patients Who Had Received X-ray Therapy
Class 1.—Deceased	349
Class 2.—Inactive (traced and untraced)	92
Class 3.—Active (receiving extract at the present time)	44
Total	485

TABLE 29.—*Incidence of Recurrence in Relation to Surgery and Postoperative X-ray Treatment: 439 Cases*

Number	Male	Female	Location	No X-ray Treatment	Postoperative X-ray Treatment	Recurrence	Metastases
105	..	105	Breast	x	..	Yes	.....
93	1	92	Breast	..	x	Yes	.....
111	1	110	Breast	x	..	No	Yes
50	..	50	Breast	..	x	No	Yes
9	..	9	Cervix	x	..	Yes	.....
1	..	1	Cervix	..	x	Yes	.....
15	..	15	Cervix	x	..	No	Yes
6	..	6	Cervix	..	x	No	Yes
5	..	5	Ovary	x	..	Yes	.....
2	..	2	Ovary	..	x	Yes	.....
6	..	6	Ovary	x	..	No	Yes
4	..	4	Rectum	x	..	Yes	.....
14	14	..	Rectum	x	..	No	Yes
3	..	3	Rectum	..	x	No	Yes
5	..	5	Uterus	x	..	Yes	.....
1	..	1	Uterus	..	x	Yes	.....
6	..	6	Uterus	x	..	Yes	.....
3	..	3	Uterus	..	x	No	Yes

symptoms which indicated a cholecystitis, but in view of her previous ulcer history, the question arose as to whether or not it was a return of her ulcer. An x-ray examination failed to reveal any definite ulcer. An exploratory operation was done and an inflamed gall-bladder was found, which was removed. The scar of an old healed ulcerated area was also found. (See Table 22.)

TABLE 30.—*Effect of Supracorcin on Sense of Well-Being*

	Per Cent
Improved	75.5
Worse	12.02
No change	12.3
Doubtful	.06

SUPRARENAL GLAND STRUCTURE AND FUNCTION IN DIFFERENT AGE PERIODS: IN RELATION TO MALIGNANCIES

The question of age is a very important one in many respects, when considering the problem of the cause of malignancy. Embryologically, cortical cells of the adrenal glands develop much earlier than the medullary cells, and, as far as we can determine, are very active at birth. The adrenal glands develop and remain active, to all intents and purposes, during the early portion of an individual's life, and it is only after forty years or more that atrophy of the cortices of the adrenals is found. Very rarely do we find atrophy of the adrenal cortices in children or individuals before they have reached middle age. As the individual approaches middle age, the incidence of cancer increases and naturally with our theory, we assume that, as an individual grows older, the atrophy increases, with a subsequent dysfunction of the adrenal cortices. With the increase in this dysfunction, less of this active principle, or stabilizer of tissue growth, is produced and given to the system. Therefore, we assume that the chances of developing a malignancy are increased because of the lack of this protective agent. (See Table 23, and charts 1, 2, 3, and 4.)

In passing, a note can be made of a press dispatch which may be of interest even though no means of confirming its truth is at hand. It was to the effect that in Greece, in a little village near Athens, the inhabitants use the entrails of sheep mixed with their food. There was no record of any death or case of cancer in this village. The supposition is that they were protected by a hormone, from the entrails of sheep, which produces an immunity.

TABLE 31.—*Effect of Supracorcin on Pain*

	Per Cent
Pain greatly or entirely relieved	65.3
Never had any pain	12.07
Pain not relieved	21.5
Doubtful regarding relief of pain	13.02

TABLE 32.—*Effect of Supracorcin on Weight*

	Per Cent
Gained	48.7
Lost	29.5
No change	21.7

TABLE 33.—*General Summary*

Years Since Admission to the Clinics	Number of Patients	Deceased		Living (Untraced)		Living			
						Traced or in Clinics		Clinically Clear	
		Number of Patients	Per Cent	Number of Patients	Per Cent	Number of Patients	Per Cent	Number of Patients	Per Cent
5	1,040	883	84.90	50	5.05	108	10.38	52	5.
4	236	145	61.44	46	19.49	45	19.06	....	..
3	139	78	56.11	37	26.61	24	17.26	....	..
2	87	40	45.97	23	26.43	24	27.58	....	..

METASTASIS IN MALIGNANCIES

Metastasis is a transfer of the malignancy to, or a secondary involvement of, a portion of the body foreign to the original area of involvement. It has been of particular interest to note the metastases which have taken place from the breast to the bone and from the breast to the lungs.

The table on metastases which is being shown is a summary of a detailed table which time will not permit us to show. (See Table 24.)

Table 25 gives a summary relative to whether or not metastasis was present in all patients who entered the clinics and received over thirty injections.

The following observation is worth mentioning, as this type of case is rare and only one was found in our entire 7,513 cases. The particular case in question was diagnosed hypernephroma of the thyroid gland, metastatic.

ON 989 CANCER PATIENTS, PREVIOUSLY TREATED BY SURGICAL METHODS

Table 26 gives a summary of patients in all classes (a series of 1,506 cases), in which group, 989 patients received surgical treatment prior to admission to the clinics.

ON 315 CANCER PATIENTS, PREVIOUSLY TREATED BY RADIUM THERAPY

The use of radium in malignancies is of particular interest, especially in certain types of cases. Table 27 gives a summary in a series of 1,506 patients, in which group, prior to admission to the clinics, 315 patients received radium therapy.

ON 485 CANCER PATIENTS, PREVIOUSLY TREATED BY ROENTGEN THERAPY

The influence of x-ray therapy upon these patients prior to their admission to the clinics, and its relation to the action of the extract, were considered important. Whether or not the roentgen rays have a definite destructive influence upon the adrenal cortices which would consequently cause a deficiency in the output of the adrenal extract could only be determined, if at all, we felt, by data compiled from those patients having received x-ray treatment, together with information obtained in the work on sheep, as previously related.

The beneficial action of x-ray in the treatment of malignancies must also be taken into consideration. (See Table 28.)

ON RECURRENCES OF MALIGNANCIES, AFTER PRESUMABLE ROENTGEN RAY THERAPY

The influence of postoperative x-ray upon recurrence is another factor which should be taken into consideration. Recurrence, in the strictest sense of the word, means where there has been total eradication of the malignancy, and a second appearance of the malignancy, at the site of operation. (See Table 29.)

ON EFFECTS OF SUPRARENAL EXTRACT ON PAIN, WEIGHT AND FEELING OF WELL-BEING

It has been gratifying to note the increase in weight, relief of pain and general improvement in well-being in these patients. Our observations regarding these facts have been consistent during the past five years, as will be evidenced by the following tables. (See tables 30, 31, and 32.)

PERCENTAGE OF CLINICALLY CLEAR PATIENTS AT END OF FIVE YEARS

Since the reading of this paper, two more patients in the "untraced" five-year group have been heard from, which will place them in the "traced," or clinically clear, five-year group, changing the total number of patients (see Table 33) in the traced or in the clinic group from 108 to 110, and the percentage from 10.38 per cent to 10.57 per cent. This also changes the number of patients of the five-year clinically clear group from 52 to 54 cases and the percentage from 5 per cent to 5.1 per cent.

FINAL SUMMARY OF PATIENTS UNDER TREATMENT FOR FIVE YEARS: (1) OF PATIENTS STILL LIVING AT END OF FIVE YEARS; AND (2) OF PATIENTS STILL LIVING AND CLEAR OF CLINICAL MANIFESTATIONS OF CANCER

The viewpoints of the authors concerning the constitutional nature of cancer are outlined.

Authors' reasons for believing that an aqueous

TABLE 34.—*Summary for Patients Who Started Treatment in 1930*

Total number of patients in Classes 1, 2, 3.....1,040

	Number of Patients	Per Cent
Total number of patients living five years after being admitted to the clinics.....	110	10.57
Total number of patients living five years after being admitted to the clinics, who are clinically clear.....	54	5.1

solution of the cortex of the suprarenal glands (supracorcin), made according to their method, as being of value as a therapeutic agent in the treatment of cancer, are indicated.

Observations on a total of 8,061 patients suffering from terminal or inoperable cancer, who applied for treatment during the last five years, are given.

The results obtained in the treatment of 1,040 patients suffering from advanced cancer, who were referred by attending physicians to the authors' clinics, and each of whom received at least thirty treatments with the aqueous extract of the cortex of the suprarenal gland, are presented.

IN CONCLUSION

In CALIFORNIA AND WESTERN MEDICINE (September, 1930, page 640) was printed the paper read by the authors, on August 23, 1930, before the Pacific Association of Railway Surgeons; that paper being partly based on the subject matter presented previously, on January 6, 1930, to the San Francisco Pathological Society.

Since 1930, five years have elapsed (the time period set in the Geschickter criteria as being necessary before conclusions could be properly drawn as to value of therapeutic methods intended to alleviate cancer).

In the two clinics maintained by the authors, at San Francisco and Los Angeles, a total of 8,061 patients with advanced cancer applied for registration and treatment; 548 of these not being registered, because they failed to comply with the requirements.

The great majority of these patients were referred to the clinics by their attending physicians of California and other states, and in each instance an earnest endeavor was made to use all methods necessary for accurate diagnosis. Clinical histories, by both the attending physicians previously in charge and of the clinics, were carefully kept, and are in the files, in well tabulated and easily accessible form, for inspection by responsible parties.*

In a total of 1,040 patients, each of whom received thirty or more injections with the authors' aqueous extract, there were 108 patients or 10.38 per cent, who are still living at the end of five years; and of this latter number, 52 patients, or 5 per cent, are clinically clear of cancer involvement at the end of five years.

(Note.—Since writing this paper, the four-year group referred to in Table 33, has become a five-year group; and of this group, consisting of 236 patients, 45 patients, or 19.6 per cent, are living. The checks on clinical clearness have not yet been completed for this group.)

Table 33 shows, year by year, a decreasing number of patients who have received at least thirty treatments with the authors' aqueous solution. This is due to the fact that very few hopelessly advanced patients are now being sent to the clinics, and also because the extract is now being furnished to licensed physicians of the Union; so that at the time of this writing, otherwise inoperable cancer patients (clinical histories having been previously transmitted to us by their medical attendants) are now being treated in thirty-six different states by their licensed physicians, with aqueous extract supplied by the authors.

Dr. James Ewing, of the Cancer Memorial Hospital of New York, in his report to the International Congress of Cancer, held in Madrid, 1933, as quoted elsewhere, declared that "it is probably safe to state that not more than 5 per cent of the cancer cases live more than five years."

In the light of Doctor Ewing's statement, it should be of interest to note that, in the analysis of the authors' total of 1,040 patients with inoperable cancer, and under observation for five years, a total of 108 patients, or 10.38 per cent, are living at the end of five years. (Since the above report was read at the St. Francis Hospital meeting of the American College of Surgeons session, in San Francisco, October 28 to November 1, 1935, two patients, still living, who are in this five-year group, have reported, making the total of living patients in this first five-year group 110, a percentage of 10.57 per cent of living patients, of which number 54, or 5.1 per cent are clear of symptoms.)

As previously stated, the complete clinical records of all patients under observation in the last five years are open to inspection and study by responsible parties.†

The authors submit that their studies, with the results obtained during the last five years, compare favorably with any in the literature; especially since they are based on observations of results in the massive amount of clinical material of advanced type that was under observation. It is needless to add that they are encouraged to go forward with their work.

Coffey-Humber Clinic, 909 Hyde Street.

* Concerning the manner in which the records have been kept in the clinics, it may be permissible to quote from a letter received from Frederick L. Hoffman, well-known authority on vital statistics, long connected with the Prudential Insurance Company in New York, and in later years with the Cancer Library and Cancer Research Fund of the University of Pennsylvania, Graduate School of Medicine, Medico-Chirurgical College, who wrote:

"The condition of your records is so admirable that I feel more than ever a full analysis of your experience would make an extremely valuable contribution to cancer knowledge. My daughter gets through with our study of the cases at the Huntington Memorial Hospital some time in March, and I have been wondering if you could not employ her for two or three months to abstract the essential facts of your records to enable me to present a full analysis of your experience from the beginning to date. I know of no records kept in such admirable condition as yours or any that would justify a more thorough study in view of the apparently exceedingly satisfactory results in otherwise hopeless cases."

† At the time this paper was read at the St. Francis Hospital meeting of the session of the American College of Surgeons held in San Francisco on October 28 to November 1, 1935, it was possible to bring from California and adjacent states a total of twenty-five patients still living at the end of five years, and clinically clear of symptoms of cancer; and to present these patients, with others not so fortunate, in the clinic rooms, for examination by attending physicians and surgeons who were present at the reading of the paper.