

DIETARY CONSIDERATIONS IN MALIGNANT NEOPLASTIC DISEASES

A PRELIMINARY REPORT

by

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INTRODUCTION

It is a fact that many patients with malignancy are treated by surgery and/or irradiation for the malignancy without systematic treatment of the patient as a whole. Among many things that can be done for patients with malignancy to build them up physically and maintain comparative physical well-being along with a good mental outlook is attention to the diet.

In the consideration of diet various subdivisions may be made; (1) can the origin of cancer be influenced by diet? (2) can the course of a cancer already established be specifically influenced? (3) can diet influence the patient as a whole favorably so that the consequences of malignancy can be staved off even temporarily or so that the patient can be rendered fit for further treatment?

With the first of these subdivisions we have nothing to say, nor do we feel that there is as yet, conclusive evidence on the second in our work, but on the third we shall concentrate and give a regime which has proved satisfactory in many cases as a supportive measure.

As stated, evidence that this type of diet has a specific effect on rate of growth or on the disappearance of a cancer is insufficient. It is evident by an examination of the literature that evidence, pro and con, can be elicited in large amounts.

A modification of the low salt and low fat but high potassium diet originally used about twenty years ago to control skin tuberculosis (Gerson, Sauerbruch, and others) has come to be known as the Gerson diet. We have now used it in a large number of cases of malignancy and a preliminary report is the purpose of this communication.

ESSENTIALS OF THE DIET (*Modified Gerson Diet*)

1. Saltless (no salt, no sodium bicarbonate, nor other minerals belonging to the Na-group).
2. Fatless (all vegetables or foods containing fats, fatty acids or lecithin are excluded).
3. Poor in animal proteins (the first six weeks without any protein, later milk products in limited quantities).
4. Rich in minerals of the K-group (Dicalcium phosphate and selected fruits and vegetables rich in the minerals of the K-group).
5. Rich in carbohydrates from plants and fruit.
6. Abundant fluid (vegetable soup and various juices).
7. Rich in vitamins (by adding Brewer's Yeast, fresh fruit and vegetables as well as fruit juice and vegetable juices).
8. Rich in some liver substances and enzymes (including defatted liver powder from young animals. 3-5 capsules a day, and liver injections of Crude liver extract—10 cc. equal to 10 U. S. units. The first few weeks 2 cc. daily, then every other day, later twice weekly; injected intra-muscularly, best in the gluteus medius).

The treatment may be divided into four stages:

Forbidden :

Nicotine, salt, sodium bicarbonate and other sodium compounds, alcohol, coffee, tea, cocoa, chocolate, spices with certain exceptions, pickles, smoked fish, sausages; all canned, preserved and bottled foods; white flour, refined sugar, candies, cakes, ice-cream, butter, all animal and vegetable fats, nuts.

Temporarily forbidden:

Meat, fish, eggs, milk, cheese, bread.

STAGE ONE

NECESSARY DAILY

Fruits (all kinds permitted except alligator pears, pineapples, berries, pomegranates); pears and plums when stewed.

Especially required are: apples in every form, such as raw grated, baked, stewed, and in the form of apple sauce also spinach, lettuce, carrots and potatoes.

Allowed are: some dried fruits, such as prunes, peaches, apricots, soaked and stewed un sulphured or carefully washed off.

A Special Soup: One to one and a half quarts a day. Half consists of parsley root, leek, and celery knob, the other half, of tomatoes and potatoes. The vegetables are to be diced, covered with water and cooked for two hours.

The soup may be taken as ordinary soup or as a thick mash. It may be prepared in quantity for one or two days use and kept well covered in a refrigerator. To make it "tasty" add the following: onions, chives, horseradish, garlic, thyme, and fresh garden herbs, green pepper. Spread parsley leaves on it or powdered yeast, or add a few drops of lemon in the plate.

Potatoes: baked potatoes — as many as possible; potato and celery salad mixed, or mashed potatoes made from the baked potatoes, mixed with a little of the special soup.

Fruit salad, preferably consisting of some of the following: oranges, grapefruit, apples, grapes, tangerines, cherries, apricots, peaches, mangoes, melon, banana or persimmons may be added.

Stewed fruit or compotes, such as apple sauce with raisins or prunes or certain other dried fruit: if they are to be sweetened, use brown sugar or molasses. Some patients are hypersensitive to dark honey and prefer maple sugar, maple syrup, glucose, Karo, light honey or molasses.

Salad: lettuce, watercress, tomato (less important are: endive, chicory, escarole, romaine, radishes), mixed with finely grated raw vegetables, such as carrots, cauliflower, red beets, kohlrabi, etc.

Dressing: lemon juice; also if desired, a few drops of wine vinegar. No salad oil or other oil or fat.

Fluids: Since large amounts of other fluids are given, it is preferable not to give water but, instead, three to four glasses of orange juice and two to three glasses of grapefruit juice. Add the juice of half a lemon to each and, if possible, add one glass of tomato juice or grape juice; in further advanced cases a few glasses of apple and carrot juice, also a preparation consisting of mashed apples and carrots, mixed half and half—all freshly pressed. Do not use metal squeezer or one with a cap (the latter tends to press undesirable aromatic oils of the skin into the juice).

Oatmeal, at least twice daily, milled without bleaching, and with no milk or cream, cooked in water, served with brown sugar or fresh or stewed fruit.

When using this Diet the patient needs larger portions and more frequent meals. He may take food every hour starting early in the morning and continuing until the hour of retiring. Feedings may continue during the night if for any reason the patient is awake.

STAGE TWO (AFTER TWO WEEKS)

The same diet as above with additions:

Among these, all vegetables are allowed (except mushrooms): to be stewed very slowly in their own juices according to the following rules:

1. with no added water or steam.
2. The vegetables are not to be scraped but washed with a brush.
3. The pot must be tightly covered so that the steam cannot escape. Adhesive tape may be used but not pressure cooker, exception: it is not necessary to cover spinach tightly).
4. Do not use aluminum pots or other aluminum utensils. Use: stainless steel, Pyrex, enamel, earthenware, iron with enamel, or enamel pots with glass covers.

5. Let the vegetables cook slowly, with a low flame about one to one and a half hours, without water and without salt. If the vegetables are too dry and have been stored too long, soak them *before* cooking in lukewarm water *not more than fifteen minutes* so that they can re-absorb the lost fluid. (It is important not to soak vegetables for a longer period since their minerals tend to dissolve in the water,

STAGE THREE (AFTER FOUR WEEKS)

Add to the preceding list: Pumpernickel rye bread, saltless, $\frac{1}{3}$ of a pound a day. Sandwiches of pumpernickel with tomatoes, radishes, chopped parsley, lettuce, raw finely grated vegetables, especially carrots (no butter). Tomatoes or green peppers filled with brown or wild rice. Apple pie made with rye flour, raisins, etc.

STAGE FOUR (AFTER SIX WEEKS)

In addition: one glass of buttermilk and, after one week, two glasses; pot-cheese or farmer's cheese (without salt or cream), a quarter of a pound a day, later half a pound; yoghurt or acidophilus milk, without cream, one to two glasses a day.

The description of the four successive diets given above covers only the essentials. It is obvious that they must and can be adapted to different conditions, especially when the gastrointestinal tract is involved. Then raw foods (except juices) have to be excluded—the fruit must be stewed, the vegetables strained, the raw fruit and vegetable juices mixed with gruel, half and half, etc.

As the patient's digestive tolerance increases, a larger proportion of the vegetable juice is mixed with the gruel.

The method of preparation of the above described diet will be reported in every detail in another article, as well as the fundamentals of further treatment, and tables showing the content of the diet in minerals, vitamins, etc.

MEDICATION

The patient receives in addition the following substances:

1. Dicalcium Phosphate with Viosterol, 6 tablets a day, well chewed.
2. Niacin, 50 mg. 8 to 10 times a day, *after* meals or juices, dissolved on the tongue. In severe cases we start with one tablet every hour, day and night for a few weeks and then repeat this for three days in intervals of one week and during the flare-ups, but patients are not to be disturbed when asleep.
3. Lubile (fried powdered bile from young animals) or Desicol, 2 capsules 4 to 5 times a day—after the first half of the special soup or juice.
4. Liver powder with iron, 1 capsule 3 times a day.
5. Vitamin A & D capsules, concentrated; twice 2 capsules.
6. Liver injections, crude liver extract (Lilly), 10 units per 10 cc., 2 cc. intramuscularly daily.

After six weeks, Dicalcium Phosphate with Viosterol has to be changed to 6 teaspoons of Phosphorous Compound, which is the same composition without Viosterol. In severe cases, we add at the beginning one teaspoon of Phosphorus Compound to each glass of juice for a few weeks in addition to the Dicalcium Phosphate.

No other medication should be used.

CASE HISTORY ABSTRACTS

The following case history abstracts give one an idea of the possibilities of the combined dietary and liver therapy in benefiting the average malignant neoplastic disease patient (all diagnoses verified by biopsy).

Case No. 1:—Woman, 43 years old, scirrhous carcinoma of the breast with metastases. Breast removed September 1940. September 1941, recurrence locally and a bulky mass above the left clavicle. Heavy irradiation with complete regression.

In July 1943 multiple skin nodules in left chest wall. Low voltage X-ray.

Disease remained under control until July 1944 when masses in left supraclavicular region and cervical region appeared. No further irradiation possible.

In July 1944 the combined low salt, low fat and high potassium diet was begun with liver therapy. After five weeks the mass decreased somewhat in size. By May 1945 tumor in left cervical region had disappeared and the sternocleido muscle began functioning. The patient's general condition was excellent.

Case No. 2:—Man, 47 years of age, mixed tumor of the salivary gland originally excised in February 1942. Three months later expectorated bloody fluid, developed orthopnea and irritating cough.

Bronchoscopy showed pressure from without diminishing the lumen of the right bronchus, The case was demonstrated as a metastasizing tumor in the chest.

Dietary treatment was begun in June 1942 when the X-ray showed a shadow, dense, ill-defined, the size of a small egg below the left clavicle; blood continued in the sputum but gradually cleared up. By September 1943 X-ray film showed disappearance of the mass. Is now in excellent health.

Case No. 3:—Woman, 43 years of age. In February 1944 developed enlarged glands in both groins and later in the neck. Received fifteen X-ray treatments. Biopsy showed lymphosarcoma.

Dietary treatment began in May 1944 when some small hard glands were found in both groins and both sides of neck. Tumor mass palpable in abdomen. By the end of July the patient's health and strength were much improved and she was able to work at her daily tasks. By the end of December 1944 and in May and June 1945, there remained a few hard glands in the right inguinal region. The bilateral edema of the legs had disappeared. Her general condition was excellent and she continued on her diet.

Case No. 4:—Woman, 38 years of age. Neurological studies revealed tumor of the spinal cord. Laminectomy and biopsy disclosed primary meningeal ependymal tumor. She had retention necessitating catheterization, severe pains in back and pelvis, finally paralysis of both legs.

Dietary treatment started in October 1943. After four weeks the patient was pain-free and after six weeks partial control of bladder returned. She discontinued her diet and her symptoms returned in several months. On return to the combined diet and supportive treatment in several months her symptoms were markedly relieved. She is by no means cured but is comfortable without opiates and is able to carry on her normal life.

Case No. 5:—Man, 52 years of age. In 1936 tumor removed from right lower eyelid. In December 1941 a small tumor appeared in left lower lid. Treated by radium after diagnosis by biopsy of basal cell epithelioma. This recurred and was re-treated. Diet and supportive treatment began in February 1944 at which time there was an ulcer on the left lower eyelid with cauliflower-like edges. Within six weeks on the combined treatment the ulcer healed leaving a small hard swelling the size of a pin head which is slowly disappearing. In March 1945 examinations were negative except for some discoloration.

This patient of highly nervous type had his whole psychology changed by the fact that his ulcer disappeared. He continues on the diet.

Case No. 6:—Woman, 52 years of age, recurrence of carcinoma of the breast following amputation and later irradiation. An ulcerative lesion was found in the operative scar, about 3 cm. in diameter, with nodules about it: about 180 some nodes in the left axilla and in the lower cervical region. After several months of the combined diet and supportive treatment there was a distinct diminution in the size of the nodules and ulcer, an increase in weight of the patient and marked improved general health.

Case No. 7:—Unmarried woman, 53 years of age, with carcinoma of the urethral diverticulum. Treated by operation and subsequent irradiation. This was followed by recurrence of ulcerating mass in anterior wall of the vagina.

In November 1944 she was placed on the combined treatment. The ulcer slowly disappeared and a remarkable change in the well-being of the patient occurred. From an anemia of 2,900,000 red cells, her red blood count rose to 5,000,000 her urinalysis became negative and her general condition excellent.

Case No. 8:—Unmarried woman, 36 years of age, with Hodgkin's disease beginning in 1941 with enlarged glands in the neck. Biopsy revealed condition. X-ray treatment helped for a year. In 1943 she began her combined treatment at which time there were glands in the neck on both sides enlarged and hard. In four or five months the gland slowly disappeared and at present she is without palpable nodes and in good health.

Case No. 9:—Woman, 37 years of age, carcinoma of the breast with metastases. Operated May 1942.

In March 1944 she was placed upon the combined treatment, though no recurrences were found.

In January 1945, two tumors appeared in the other breast, one soft and movable, the other hard and attached. In the left axilla was a chain of palpable nodes. By the end of March 1945 on the combined treatment the patient was improved in her general health; only one nodule remained but did not increase in size.

Case No. 10:—Woman, 70 years of age, treated by irradiation in November for a stony hard mass in right cervical region; biopsy report papillary adenocarcinoma of the thyroid, After irradiation the mass

regressed but Soon returned. In February 1944 a hard tumor of the thyroid gland was found the size of a small apple. In about four weeks of supportive and dietary treatment she was able to swallow more readily. The tumor became smaller, she gained in weight and became stronger. In December 1944 the same hard mass was found hut her clinical symptoms are very much relieved.

SUMMARY

In all of these patients, while no actual cure has occurred, nevertheless improvement was manifested not only in general bodily health but also in many cases the tumors themselves diminished in size. It is possible, as stated, to marshal evidence on both sides of the question of the efficacy of the sodium-poor, potassium-rich diet. Theoretical considerations lead into many directions but there is lacking conclusive evidence which will settle many of the moot questions.

This communication is therefore offered to again emphasize that (a) intelligent general care of the cancer patient often produces marked amelioration of symptoms and improved general health even to the point of being able to resume work and (b) that the high-potassium, low-sodium, fatless diet combined with liver therapy tends to inhibit the rate of growth of malignancies and in some cases even to cause the individual nodules and metastases to become smaller.

REFERENCES

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