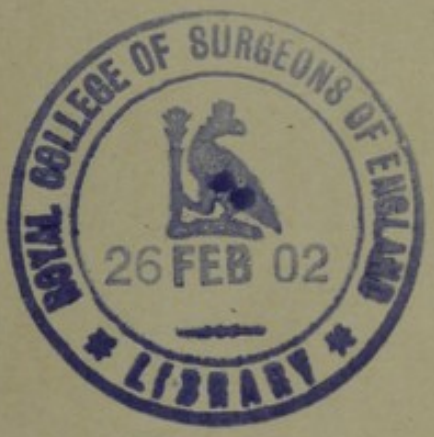
A cancer theory / by William McDowell.

A CANCER THEORY

BY

WILLIAM McDOWELL, M.D.

COOPER MEDICAL COLLEGE, SAN FRANCISCO, CALIFORNIA; ALSO GRADUATE OF ONTARIO COLLEGE OF PHARMACY



LONDON
BAILLIÈRE, TINDALL AND COX
8, HENRIETTA STREET, COVENT GARDEN
1902

A CANCER THEORY

A CANCER THEORY

As a result of several months' exclusive study on cancer, in the Library of the Royal College of Surgeons, I have arrived at the following conclusions: they are all reasoned out from well-established facts, and while many of the deductions may appear rather abrupt, I defer bridging the chasms over because this would entail minutiæ that most readers might consider superfluous. Therefore I shall be as brief as possible.

My lack of proof of correctness of my theory is due to the superior energy and power of the anti-vivisectionists. Owing to the restrictions placed upon us, the date upon which I may begin experiments is very indefinite, so I prefer to submit my picture without the finishing touches, in the hope that a method may be devised of effectively administering the remedies that I am sure are required to cure this dread malady.

About the first fact that suggested itself was that cancer most frequently occurs in sites where lactic acid is found—normally (?) in contact with the cervix uteri, in abundance in 75 per cent. of cases of cancer of the stomach—or easily-formed, *e.g.*, from retained milk in the breast. The formation of this acid appears to be a normal stage in the process of the conversion of carbohydrates (in the muscles) into heat, energy, and combustion products. It is very quickly formed in viscous fluids, such as those containing carbohydrate and nucleo-albumin; and generally carbon dioxide,

hydrogen, carburetted hydrogen, formic acid, or other powerful deoxidizing substances, are produced at the same time. It can be formed from proteid, carbohydrate, or fat, by any one of about a hundred types of bacteria, or it may be formed without their aid. Women lose lactic acid in menstruation, though probably on leaving the cavity of the uterus this is mostly nucleo-albumin; and in pregnancy and lactation the surplus, that otherwise is liable to produce lactic acid, goes to the fœtus and child. So it seems to be their unhappy lot to have to assimilate, during their sexual life, more than they can oxidize. Therefore, when the breast and uterus become less active in removing the surplus, they ought to eat less or throw the extra work on some other excretory organ. Otherwise there will be an accumulation, and the disease resulting will depend on the point at which the blockade occurs, and then the loss may exceed the assimilation.

A food is only beneficial when it is productive of chemical change. It becomes a poison when taken in excessive quantity, so that the cells with which it comes in contact cannot provide the necessary opposite pole. One way in which a poison may act is, in being a neutral substance, it does not stimulate the cell; constant activity is required of every particle in order that it may constitute a living component of the organism. During rest the cell is active in replenishing stock. The more inactive a cell becomes, the less part it takes in affairs and the more liable it is to be cast off or used as food. The products of a cell are not stimulating to it, so they must be removed, or the cells will die and the blockade extend. Reversible fermentation may result, and rapid dissociation may provide a stimulus, which, passing through the sets of processes in the conversion to end-products, at a proportionate rate of speed will involve the erring one in a fast life.

Normal metabolism is conducted by means of the oxygenated protoplasm carrying to the cell all its requirements from its source—the artery—and the passing of spent material to the

lymphatics and veins. (I shall not speak of the alterations by secretions.) I believe that this is a gradual process, each particle of new food going through all the stages of proteids and nucleins until it is finally eliminated as carbon dioxide, water, the uric acid group, phosphates, and sulphates. In order that nucleic acid (the highest in the scale of nucleins, and therefore the one that has served its time) be carried out as these combustion products, it will require alkali and oxygen. Diluted caustic potash dissociates nuclei, and if prolonged, digests them, whereas gastric juice has no effect. Strong mineral (oxidizing) acids convert nuclein into benzoic and other acids. Alkaline blood produces, with nuclein, the uric acid group—xanthin, hypoxanthin, and later uric acid. I believe that the oxygen and alkali coming into the cell are only loosely combined, and that on their leaving the protoplasm highest in the scales of proteid to go to one higher in the scale towards nucleic acid, the former in losing oxygen and alkali, more or less free, acquires these in firmer combination from its source. The nucleic acid finally gets the oxygen and alkali from the next nuclein below it, and this next nuclein is thus promoted to the highest position, to get in its turn oxygen in firm combination, and then alkali and elimination as the above spent materials.

When a substance like mucus is deposited in a cavity, or on a surface, and is allowed to remain, although it may at first be alkaline in reaction and neutral to the surrounding cells, it will undergo dissociation into fatty acids and reducing substances, since it is a product of incomplete combustion, and therefore requiring oxygen. Lactic acid is a deoxidizer in that with oxygen it forms acetic and formic acids, and the latter is a strong reducing agent. Carbon dioxide is one of the fatty acid (monobasic) group, and precipitates granules from paraglobulin, which may be cleared up by means of oxygen. Butyric acid is a frequent product of dissociation of foods, formed generally by anaerobic bacteria, hydrogen frequently being a simultaneous product. It

may also be produced by adding lime to a lactic acid fermentation. It may be oxidized to succinic acid, which is found in perspiration.

Now, given a condition where (1) assimilation has exceeded the respiration (Freund and Trinkler found reducing substances—presumably sugar—in considerable quantity in the blood in carcinoma, and Lubarsch found diminished alkalescence; the condition may be of some years' standing, and the individual need not be a heavy eater as long as the transportation is inefficient), and (2) a local deposit of mucin, nucleo-albumin, or any proteid, carbohydrate, or fat, and therefore needing oxidation, and capable of dissociation into reducing substances, the following will nearly surely be the result:

The fatty acids will take alkali for their neutralization that should go to the katabolism of the nuclein; the reducing substances take the oxygen. The result is a non-katabolism of cells, which will require an increased supply to correct, and this is not forthcoming, but, instead, an increased amount of substances much in need of oxygen is sent to the part. The more the proteid is reduced, the more highly phosphorized the nuclear material, and the condition increases until the nuclei, deprived of food for activity, disintegrate.

The result of this precipitation is exposure of more surface and therefore more polarity, with the further result of attraction of protoplasm. Active granules (many stages lower than nucleic acid) collect this, and go through karyokinetic figures resulting in various types of cells, according to the supply of food. Some granules stray away and get enough albumin to form "protozoa," and keep up their piratical work as long as there are spoils.

Malignancy is due to the loss of oxygen and alkali by the basement-membrane, lactic acid, etc., thus dissolving it as it does with a diphtheritic membrane. In the same way, by precipitating intercellular substance, cells may be made liable to travel up the

lymphatics. Metastases may also be due to "protozoa" travelling up.

Not having had any practical experience, I do not know what would best produce the effects I think are required in order to cure cancer, so at present it would be like prescribing by mail. Each case will demand variations, and much will depend on the progress of the case.

Morphine and alcohol in excess would be great obstacles in bringing about a cure; so would tea and coffee drinking, and any substances causing high blood tension.

Hygienic surroundings are of course very necessary, and bathing and exercise should be indulged in as much as possible.

Systematic dieting is required, so that the exhausted parts be built up.

Oxidation alone and alkali alone have cured cancers, but I think that best results will be obtained by the continuity of application of a weak solution containing both, such, for instance, as the proportions in arterial blood. I have calculated that a solution of sodium peroxide, 1 in 500, ought to serve the purpose; or the following, which is almost the same: Sodium hydrate 1, peroxide of hydrogen 150, sterilized water 850. Teaspoonful doses could be begun with internally two hours after eating, and decreased when unfavourable symptoms, such as diarrhœa or phosphaturia, arise, or for the latter give correctives such as sulphur at night. Local applications may be much stronger (even 1 in 10 of sodium hydrate), provided no absorption takes place; this might be used through a 1 oz. glass syringe, taking care that the surrounding skin be protected. In all cases, the products should be removed immediately. The weak solution might be injected into the tumour mass in 15-minim doses, by a hypodermic syringe. Where applicable, a nice apparatus might be arranged to provide constant syphonage through gauzes in rubber hose to a compress, and then drained away by the other end

passing out through another piece of hose. The solution should be made extemporaneously.

For the following reasons I think neurine or choline, properly handled, ought to cure cancer :

1. They have a strong alkaline reaction.
2. When one of them is present in cerebro-spinal fluid the normal reducing substance is absent.
3. One of them forms the base for glycerin phosphoric acid in lecithin.
4. They cause lowering of blood-pressure.

In cancer of the stomach I would recommend lavage with above fluid, and acid nitro-hydrochlor. dil. to be given with the meals or directly afterwards.

Yeast plays a prominent part in the causation of cancer. It is often present in cancer of the stomach. It contains nuclein, forms fatty acids, and Sanfelice produced a neoplasm by means of it.

Baillière, Tindall & Cox, 8, Henrietta Street, Covent Garden, W.C.