AN EFFICIENT SINGLE DOSE TREATMENT FOR DIABETES, On A Full Carbohydrate Diet Without Insulin 1941

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The period of observation includes scattered cases treated since 1922 and recent systematic studies. The cases treated cover about every type known, including a few of diabetes insipidus.

The treatment material consists of catalytic dilutions of the carriers of aerobic oxidation which we have described in the past elsewhere. (1) These substances are 1:4 B Benzoquinone and its transition products Glyoxylide, (O=C=C=O), and Malonide, (O=C=C=C=O), and also Ketene. Their chemical structures conform to the rules we have laid down as requisite to the production of immunity against disease; namely, they possess the smallest molecular weight possible; they possess carbonyl groups that share ethylene linkages or carbonyl groups that are conjugated with ethylene linkages in molecules that can yield carbonyl groups sharing ethylene linkages. (2)

Substances of this type can be extracted from the heart and brain. Such extracts demonstrate the same curative results as the synthetic products and, like them, correct a definite blood coagulation deficiency. Because of this physiological property, I named them "Tissue Thrombin" and showed that they are able to cure cancer, in a paper published in the *New York Medical Record* in October, 1920. The synthetic products can be used with good control while the tissue extracts are very unreliable and have only academic interests. Vitamin K offers very weak protective properties in addition to its influence on blood coagulation and in its little way confirms what we have been teaching for years with, reference to carbonyl and ethylene groups in the catalysis of the oxidations. There is beginning to be a general appreciation of the significance of these findings. This is important, since it is our mission to demonstrate that the common basis of disease of all kinds; including diabetes mellitus and diabetes insipidus, is a specific defect in the

oxidation catalysis.

The clinical data indicate that the cause of diabetes is the prolonged poisoning of the tissues by bacterial products liberated in scars that have scanty circulation. These products are intended to serve the nutrition of the germs that produce them and are originally of fairly small molecular weight, diffusible, and fully oxidizable by the oxidation mechanism of healthy tissues. However, when secreted under the anaerobic conditions prevailing in scars they are not burned, but instead some of their free valencies yield to polymerizations by which the molecular weight increases progressively while the photochemic properties vary also with the different stages in the polymerizations. The different photochemic values have different pathogenic powers, and so as the polymerizations progress, the patient passes through a series of different pathogenic influences that produce different symptomatologies and physical changes.

Diabetes is one of these effects, with a predilection to express itself in certain persons and races. Neuritis, various degenerative diseases, psoriasis and other changes may be exhibited, but the final change in all, if the patient lives long enough to develop it, is cancer. Here too the hereditary factor plays a part, for we have observed that successive generations tend to develop malignant growths earlier and earlier in life and the longer the disease has expressed itself in the ancestry the shorter is the pre-growth, toxic period that exhibits diabetes or the other changes. (3)

The oxidation catalysts we use therapeutically are de-polymerizing agents and, while the toxin is being depolymerized to its simple burnable structure, it passes through, the various phases that were active during the pathogenesis, and so fleeting recurrence of these changes come, and disappear in the reversed order while recovery is going on. Thus, when the patient is treated in the cancer stage of the poisoning and retraces the symptomatology of the pathogenesis, the last toxic expression to come is the first to go and the first to come is the last to go. Therefore, an acute inflammation in some old cicatrix that imprisoned the causative infection is the last change to take place. After the germ’s nutritional agents have been oxidized the germ dies and the scar which imprisoned it becomes obsolete and is absorbed. Thus, with the destruction of the etiological factor, the disease is completely cured. When some form of diabetes is one of the pre-growth symptoms it is overcome before the scar is cleaned out and, since this happens soon after the cancer growth is absorbed, we conclude that the molecular weight of the toxin at this stage is quite great. Cases of diabetes cured by this treatment, before they can develop cancer, may pass through other expressions of the intoxication producible by greater or lesser molecular weights, thus the neuritis will get well before the diabetes and the obliterative endarteritis will start to heal before the blood sugar is normal. But a psoriasis or other change may show up transiently after the blood sugar has become normal. Therefore, diabetes must be studied as a phase of a systemic intoxication and cure cannot be fully established until the focus of infection has been wiped out. Thus the recovery is not measured alone by the return of the blood sugar to normal.

Polymerizations of pathogenic toxins, therefore, appear to us to account for the different stages of chronic diseases, such as the several stages of syphilis, the different phases of malaria and of the “Fourth Disease,” etc. It accounts also for the creation of pathogenic viruses. Certain polymerization phases have-specific pathogenic action, while others have

no action at all. The rapidity of the recovery from virus caused disease after one dose of our Benzoquinone, solution or one of the transition forms, Glyoxylide or Malonide, can only be accounted for by this assumption, for recovery from early acute infantile paralysis has taken place in twenty-four, hours and measles recovers regularly in twelve hours. The dreaded tropical pemphigus begins to improve in twenty-four hours and recovers in a few weeks, with ultimate full restoration of the skin. The virus action is probably destroyed in the first three or four days, so far as the “Wild-fire” itself is concerned.

Obliterative endarteritis, which is a specific effect of the poison that causes diabetes, we regard as the lesion that specifically indicates a depression of the oxidation catalysis of the tissues, general or local. Therefore, this lesion is a definite indication that the oxidation catalysts we have contributed to medicine should be employed to remove the basic cause of many diseases, including Buerger’s disease, leprosy, tuberculosis, syphilis, cancer, and so many more. There can belittle doubt that the endothelial hyperplasia is a compensatory attempt to increase the surface for filtration of oxygen from blood to, the tissues, even though it defeats its own purpose. The demand for activated oxygen on the part of the tissues is also expressed by poor sugar oxidation as observed in diabetes mellitus, cancer, the thyroid diseases, and others. By removing the basic pathology, that is, by restoring the oxidation catalysis to normal or better, all expressions of the intoxication are removed, and the metabolism, the blood pressure, and the tissue functions are again able to run along as they should. The focus of infection is wiped out and the disease is cured in its totality.

After an intramuscular injection of our Benzoquinone solution or one of the other catalysts mentioned is given in diabetes, recovery begins very quickly and its progress can be measured by the decrease in the blood sugar. The amount of sugar eaten will affect this reading, but not the recovery mechanism. We feed the patient an ordinary amount of sugar and starches and as he recovers he is more and more able to use them. Where the sugar intake is controlled, however, it is usual to observe a drop of twenty mgms. percent every week until normal is reached. But we have seen both slower and more rapid restoration to normal. Sometimes a severe case is encountered in which the blood sugar is over four hundred mgms. percent and the vital organs have undergone fatty degeneration to a fatal extent. In such cases the blood sugar may come to normal and the gangrene heal, but the patient may, die from heart failure after excessive exertion, either very early or very late after recovery from the diabetes.

In one series of cases, where the patients could be watched closely, the four per cent of failures belonged to this group only, but in each instance the blood sugar came to normal before death. Acidosis is not a serious factor either, because with the restoration of the oxidation of sugar, the fatty acids are also burned. The recovery is not simply the reduction of the blood sugar to normal. It involves the correction of the whole pathology and the removal of its cause. Therefore, the use of insulin is not essential. Indeed, it is better as a rule to do without it from the commencement of treatment so as to avoid a hypoglycemia in cases making rapid recoveries. The few cases of diabetes insipidus treated so far have also recovered.

The treatment procedure is to stop all medication and cleanse the bowels for a few days. Then one dose of one of the oxidation catalysts is injected intramuscularly. Except for the use of plenty of animal fats, the dietary regime is vegetarian entirely. No animal proteins

whatever are permitted. Thus the production of nitrogenous negative oxidation catalysts in the intestine is retarded: Colon lavage is helpful. The diet should be reasonable and include plenty of vitamins and tissue salts. Foods containing quinones and terpenes that serve as negative oxidation catalysts must also be eliminated from the diet. Therefore, coffee, tea, mangoes, and citrus fruits are not, used, and exposure to pint solvents, perfumes and automobile or furnace gases is avoided. Food should not be cooked in aluminum. Adequate colon lavage should be employed to assure proper elimination. Alcohol, tobacco, and spices are forbidden. One dose of the remedy is usually sufficient where cure is possible.

After the remedy is injected one should watch for periodic reactions which play their part in the recovery process. These have already been described. (4) They generally come at three and a half day or three-week intervals until recovery is complete: If an interfering factor prevents recovery it should be identified and removed and the dose repeated.

Diabetic Mechanism

To orthodox medicine the mechanism of diabetes still remains a puzzle. It is observed, however, that after a person dies of diabetes, his pancreas can be removed and from it a normal amount of insulin is extractable. (Of, course, syphilitic and malignant destruction of the pancreas belong to different categories.) The difficulties must lie with the function of secreting or transferring the hormone into the blood stream. This is a function which like muscle contraction requires the expenditure of energy. We may say that two possibilities can exist in the production of diabetes, the inability to produce the energy within the secreting fibrillae, and the inhibition of the secretory function through allergic action of the “sugar center” in the brain or an allergic action of the pituitary gland. Both the anergic and allergic suppression of Islet function exist on the same chemical basis and have one means of correction. A few explanatory words are in order.

We have given a thorough description of the allergy mechanism in various writings and lectures in the past. (8) Briefly we may say that in this condition the cell functional elements are made to work “under forced draft” beyond physiological control. They have adsorbed into their colloidal surfaces, a fluorescent toxin which transfers the exothermic energy which is constantly evolved in living cells, into the functional element affected. The specificity is determined by the similarity in the spectral absorption range of the functional unit and the emission range of the fluorescent substance. So the energy transferred passes right into the chemical processes of the functional unit and forces its activity to proceed without the usual control. Thus are produced the hyper-secretion of hay fever, the contraction of the bronchial musculature in asthma, the conduction of a constant series of impulses through the neurones associated in some thought complex resulting in the fixed ideas and delusions of in. sanity and. the phenomena of hysteria. Thus also mitotic units are forced into uncontrolled hyperactivity in the cell multiplications of malignancy.

When energy is prevented from being evolved in a cell functional unit, the work of the affected unit cannot be performed. The mechanism of blocking the functional process is very much of the same nature as that of forcing allergic behavior. Both depend upon the free valencies of the offending substance (toxin). In one instance energy is transferred from the cell substance to a functional unit where it does not belong and forces function; in

the other, the energy evolved within the cell is absorbed by the fluorescent substance and emitted at a range that does not correspond to the energy absorption range of the colloids of the functional unit, and hence it is dissipated without being used. Thus the functional unit is inactivated. It appears that the polymerization is less advanced in the allergenic than in the anergenic phase. Since the free valencies of the offending molecule in both instances are subject to oxidations and the molecule itself is a polymer of a much simpler oxidizable structure, both effects can be corrected and really completely cured by completely de-polymerizing and oxidizing the fluorescent materials that cause the interferences.

As was stated earlier the origins of these toxins are imprisoned germs living under anaerobic conditions in scar tissue, occluded tonsilar crypts, intestinal diverticula, etc. The toxin is the germ's nutritional agent and its destruction is fatal to the germ.

Whether or not the toxin has polymerized to the very advanced stage where it acts directly upon the secretory filaments of the Islet cells inhibitively, or has polymerized only to the lesser degree where it can act allergically upon the nerve centers that inhibit Islet function, or upon the pituitary to accomplish the same result, is, therefore, of no consequence therapeutically. The same treatment measure is successful, for it removes the pathogenic agent completely and thereby causes the death of the germ that produces and depends, upon the poison. Since the scar prison is no longer needed after the death of the germ, it too is disposed of and recovery is completed. Recovery is complete too for another reason. The lack of oxidation capacity that permitted acute infection to become chronic and produce its poisons in any tissue is corrected by the new vigorous oxidations instituted by, the treatment and since they are of the normal type that conduct aerobic glycolysis, it is the normal protective procedure that is re-established. Thus we have overcome a serious disease by a physiological procedure. The same system is used in securing true recoveries in all of the other incurable diseases and lent infections so far encountered for the chemistry of their pathogenesis is the same.

Relation to Other Therapies

The curative agents, 1:4 Benzoquinone, and its transition products, Glyoxylide and Malonide, are the unrecognized active principles of the favorite sulfonamide chemotherapies of the present day. But the active principles themselves are far superior because the sulfo drugs must be changed to 1:4 Benzoquinone first at the expense of the tissue vitality before they can do service. In complicated and serious sickness the vitality may be too depleted to conduct the oxidations required to accomplish this change and then the toxic effects of the drug added to the infection toxins have a good chance to prove fatal. This situation is eliminated and direct curative action only is had by the use of 1:4 Benzoquinone or Glyoxylide or Malonide. (6) It is thus evident that in diabetes and malignancy, sulfa drugs offer certain dangers.

Vitamins B, C, and K and some other useful agents depend primarily upon the carbonyl group for their specific action. In each instance the rest of the molecular structure determines the specific position at which the carbonyl activity fits into the body chemistry and what its intensity should be. The free valency of the carbonyl group exerts a photochemic action that influences the formation of oxidizable ethylene groups and

activates oxygen and other carbonyl groups. (10) Therefore these vitamins, and some others are special oxidation agents that play a part in the recovery from diabetes and cancer. Their forced feeding gives a good boost to the oxidations, enough even to produce temporary approximate recoveries in a few instances.

However, for true curative efficiency their structures would have to be changed to conform to the laws of chemical structure we have announced.

The very infrequent good results from irradiation we attribute to the accidental dehydration of tissue inosite to “Hexylene” (9) and its further oxidation to Glyoxylide and Malonide with 1:4 Benzoquinone as a possible intermediary. The carcinogenic action of irradiation is far better known than its curative action in cancer which critical investigation shows to be nearly nonexistent. We, therefore, suspect that irradiation produces a reduction of the normal catalysts of sugar oxidation, Hexylene, Glyoxylide, and Malonide, to 1:4 Benzoquinone, for in fairly concentrated solution 1:4 Benzoquinone has proved to be carcinogenic. We have attributed all carcinogenic action to the quinone group. (7)

The ultimate of all curative therapies are Glyoxylide, Malonide, Hexylene, and their relative 1:4 Benzoquinone because of their critical physiological positions. Benzoquinone is indicated in the acute infections and lighter allergies, while Glyoxylide serves best in the more chronic infections, the deeper allergies like cancer, and the degenerative diseases.

Case Histories

One interesting observation is that of a physician of about fifty years of age whose mother we cured of an enormous cancer of the breast in 1920. She was about eighty years of age. The son, about fifty years old, came in 1926 with profound diabetes of two years’ standing. His diet was carefully managed and, insulin was used regularly. Still in the last ix months he developed a general multiple neuritis that affected both legs and hips most severely so that he was nearly bedfast and needed crutches to move about. The Glyoxylide solution we were using at that time was given intramuscularly. The neuritis and general nutrition improved very quickly. It was much better in a week and in seven weeks it had disappeared entirely. Still the blood sugar had only dropped from 190 to 160 in that time and he still took some insulin. Recovery was not completed until after the twelfth week. Here we see the changes disappear in reverse order to their coming, and it appears that the stage of polymerization of the toxin causing the neuritis was farther along than that which affected the pancreas islets.

A case of diabetes with considerable obliterative endarteritis throws some light on the subject. This patient, age 50, was first seen by us in July 1928. For about a year the obliterative endarteritis in both legs and feet increased in severity so that walking became difficult. One of our best hospitals found the blood sugar to be 380; gave insulin, morphine to control the pain, and advised him to prepare for amputation of both legs at the knees. He took our treatment instead and made a full recovery. In twelve weeks the legs were normal and at the sixth month the blood sugar was again estimated at the same hospital and found to be 90 mgms. percent. No insulin was used after the injection of Glyoxylide and he ate all he wished. He was a fatty type and suffered from dyspnoea on slight exertion. The, heart muscle sounds were weak and its action flabby. A fatty degeneration

of the myocardium was suspected therefore. Six years later after prolonged exertion he died from acute cardiac dilatation. Evidently better care and a longer time were required to permit the heart muscle to be repaired with good healthy muscle tissue.

A simple case of diabetes which illustrates the vast majority one encounters is illustrated by the woman of 73 who was discovered by her grandson, a diabetes expert, to be carrying a blood sugar of 220 mgms. percent. He did not give insulin, but our 1:4 Benzoquinone solution instead. After one injection the blood sugar steadily decreased by about twenty mgms. percent per week until normal was reached. Thus it took her about six weeks to recover. Her diet was not arranged to restrict carbohydrates rigorously. She simply ate carefully as a woman her age should, but all animal proteins were forbidden.

We have encountered diabetes complicated with rapidly advancing tuberculosis. Such cases do as well as though no tuberculosis were present and the tuberculosis undergoes recovery just as rapidly as though no diabetes were present, whereas, before treatment the two conditions definitely aggravated each other or rather were both aggravated by the basic crippling of the oxidation mechanism.

The time relations may be obscured sometimes as in a case of diabetes where cancer is present, if for instance the size of the growth is very large. Such a case is that of a woman of 57 whom we treated in 1927. The diabetes was mild, the blood sugar rarely exceeding 200 mgms. percent. This condition was known for a year before a growth was found in the left breast. The growth developed rapidly producing large metastases in the axilla, and was found inoperable at the first examination. At her first visit to me the volume of the growth was about a liter and a half, the axillary growths included. Two injections of Glyoxylide were given, but recovery was very slow, which is contrary to the rule, for the greater the growth rate, the greater the autolysis rate. Recovery from the growth was not completed until seventy-two weeks had passed. However, the diabetes started to improve after the thirty-sixth week and the blood sugar became normal before the sixtieth week. Thus the time required for the organization, autolysis, and absorption of the growth exceeded the time required to get rid of the pathogenic toxin by something like nine months.

The whole profession is invited to make observations with the four remedies we have been using most effectively, especially Benzoquinone and Glyoxylide. We prepare each dose as carefully as possible for every patient that is chosen for treatment and at the most reasonable cost possible. Case discussion is welcomed, and advice is offered whenever desired; and all progress reports are of the utmost interest to us.

That the earliest possible overwhelming statistical support to this thesis is highly desirable is certainly evident, and we ask for your cooperation.

BIBLIOGRAPHY

1. The Chemistry of Natural Immunity, Koch, American Printing Co., 1936, pp. 155-163.
2. Lecture, “The Laws of Chemical Structure that Determine Immunity to Disease”, Koch, 1939, pp. 4.

3. Cancer and Its Allied Diseases, Koch, American Printing Co., 1927, pp. 52.
4. Cancer and Its Allied Diseases, Koch, 2nd edition American Printing Co., 1929, pp. 151.
6. Lectures, “Laws of Chemical Structure that Control Immunity”, Koch, Dr. Wm. F., pp. 6 and 7, Simon, Rio de Janeiro, Brazil, 1941.
7. Chemistry of Natural Immunity, Koch, Dr. Wm. F., pp. 67, 68, and 70, Christopher Publishing Company, 1938.
8. Ibid, pp. 47.

Dr. Koch Publications

1912 – 1939

- 1912 W. F KOCH Ph. D., M. D. ON THE OCCURRENCE OF METHYL GUANIDINE IN THE URINE OF PARATHYROIDECTOMIZED ANIMALS.
- 1913 CHEMICAL CONSEQUENCES OF THE REMOVAL OF THE PARATHYROID GLANDS
- 1913 TOXIC BASES IN THE URINE OF PARATHYROIDECTOMIZED DOGS
- 1916 THE PHYSIOLOGY OF THE PARATHYROID GLANDS
- 1918 TETANY AND THE PARATHYROID GLANDS
- 1920 A NEW AND SUCCESSFUL DIAGNOSIS AND TREATMENT OF CANCER
- 1925 CANCER ITS FUNCTION AND CURE, THE EVOLUTION OF THE IMMUNITY PROCESS
- 1926 CANCER SUPPLEMENTARY POINTS
- 1926 THE PREVENTION OF CANCER
- 1927 BLOOD CHEMISTRY IN MALIGNANCY
- 1927 THE KOCH CANCER TREATMENT AND ITS INVESTIGATIONS
- 1938 NATURAL IMMUNITY VIA AEROBIC GLYCOLYSIS
- THE FUNCTION OF CANCER
- THE JOURNAL OF THE AMERICAN COLLEGE OF PROCTOLOGY

1940 – 1949

- 1939 Clinical Demonstration of the Laws of Chemical Structure that Determine Immunity to Disease, and their Application in the Treatment of Patients
- 1940 THE BASIC CHEMISTRY OF OUR DIET
- 1941 A BRIEF HISTORY OF THE KOCH SYNTHETIC ANTITOXINS
- 1941 AN EFFICIENT SINGLE DOSE TREATMENT FOR DIABETES, On A Full Carbohydrate Diet Without Insulin
- 1941 CHEMISTRY’S VICTORY OVER DISEASE
- 1941 PRINCIPLES OF THE KOCH THERAPY INTRODUCED IN 1918
- 1941 RELATION OF FOCAL INFECTION TO CANCER AND ALLERGY IN CAUSATION AND RECOVERY

1950 – 1957

- 1958 SURVIVAL FACTOR IN CANCER AND VIRAL INFECTION
- 1961 SURVIVAL FACTOR IN NEOPLASTIC AND VIRAL DISEASES
- 1963 NEOPLASTIC AND VIRAL PARASITISM THEIR BASIC CHEMISTRY AND ITS CLINICAL REVERSAL
- 1966 THE KOCH CONCEPT (FOR THE SCIENTIFICALLY KNOWLEDGEABLE)
- 1967 THE FUNCTIONAL CARBONYL GROUP IN PATHOGENESIS
- DR. KOCH’S EXPLANATION OF THE FUNCTION OF HIS REAGENTS