

THE CARE OF THE PATIENT

To fully appreciate the objectives of this treatment method it is well to recall the various natural mechanisms for combating injury to the normal body chemistry. With increasing knowledge of colloidal chemistry we are inclined to look upon the various antitoxins, agglutinins, lysins, etc., of immunology as states of dispersion of the tissue colloids rather than as new substances generated within the body (10) (14) (15). MacDonagh has discussed these matters in detail and has emphasized the part played by the glands of internal secretion in the maintenance of the colloidal dispersion favorable to good health and resistance to disease. Fundamental to this however both in the development and function of these glands, stands the catalysis of oxidation just as it is basic to the development and activity of each cell's functional units.

My work on the parathyroid glands, (18) (26) (27), demonstrated that an endocrine gland may make a business of actually destroying a toxin of specific chemical structure, the guanidine bases for instance. It appears that this destruction of guanidine is accomplished by both building this substance up into a useful substance, creating phosphoric acid, or guanine, and by oxidizing the excess to urea. So the parathyroid glands preserve the colloidal dispersion that keeps the cations like calcium adsorbed into the living colloids, and thus prevents their loss through ionization and diffusion. It is at the expense of the oxidation mechanism that the energy needed for charg-

ing the particles in the sense of MacDonagh and for the synthetic or oxidation work necessary to the disposal of toxins is gained. Likewise, the pancreas works at the expense of the oxidation mechanism to lower the surface tension of the tissue colloids so their lysed particles may adsorb each other till their surface area is reduced to a point where the energy per unit surface has increased to normal and a substitute for normal dispersion with correct adsorption of sugar and electrolytes has been attained. The return of function of incapacitated endocrine glands, the thyroid, the pituitary and the sex glands, as well as the restoration of their development after it has been intercepted even for a number of years, illustrates the fundamental position of restored oxidation catalysis in the defense mechanism. Case histories are given to exemplify these facts.

Since malignancy rests upon total anaplasia or a potential anaplasia expressed in hypoplasia, the restoration of normal cell development with its functional elements is a physiological measure of combating cell perversion. But this, too, depends upon an oxidation catalysis that destroys the offending traumatizing allergenic anaplasia producing toxin. After the Ketenone treatment is instituted, the restoration of the normal colloidal dispersion consequent to the restored oxidation mechanism should be permitted to follow without aid of endocrine or medicinal means. All chemotherapy aimed toward helping out may prove disappointing by blocking the normal restoration procedure. Time should be allowed for the natural reconstruction and return of function of any deficient organ; and proper food, rest, and elimination is all that need be required. There are several ways in which

interference takes place, but the photochemic means of destroying the oxidation mechanism are most dangerous. Anesthetics and narcotics destroy the colloidal dispersion that provides the correct surfaces for mediating the oxidation reactions. So profound may injury from anesthesia be, that where a commanding infection is present as in pneumonia, or septicemia, anesthesia may spell death. It is much more difficult to restore immunity under such circumstances if the general anesthetic were used during the recovery from infection in response to the glyoxylide. The routed dispersion of the colloids and the destruction of dehydrogenases may not be correctable in time to save life by further doses of this catalyst.

Substances that photochemically quench the catalytic activity before it gets well started should be eliminated from the regime. The chief offenders are substances of similar structure to the glyoxylide and sometimes a dose of the catalyst itself given at a wrong phase of a recovery cycle. Such substances absorb in the same spectrum ranges and act by resonance induction as described by J. Perrin, (13). In this connection it must be remembered that if a recovery process has been instituted by the glyoxylide as a member of one equilibrium system, repetition of the dose with the glyoxylide from a different source may annul the activity of the first dose because different systems do not possess identical intensity of electronic activity. Substances which quench fluorescence cannot contribute helpfully and must be avoided even though without the glyoxylide they may prove beneficial. Such substances are active in proportion to the ease of displacement of the electrons of the peripheral shell of the anion, in the following order, (28), I' CNS', BR', CL', OX',

AC', SO_4' , NO_3' , FL'. It is in this way that the Calcaria Fluorica of homeopathy occasionally proved useful in cancer, and would detrimentally quench some of the energy of the glyoxylide, if given to a treated patient. It is best to avoid all medication, therefore, unless experience has proven its harmlessness in similar cases under this treatment.

The sedimentation rate of the red blood cells is generally a fair index to the degree of toxicity of an individual, the degree of entropy of his colloids and the loss of vital energy from the colloid surfaces. Normally, the drop is only a few mms. for a healthy individual, but this small amount varies with the individual. In cancer, tuberculosis, and the allergies, the drop is great or moderate according to the degree of illness presented. After successful activity of the Ketenones the improvement in the sedimentation rate follows the clinical improvement closely, and the test is valuable in estimating improvement. Generally during the fourth week it has improved far towards normal, indicating the decrease in the amount or effect still remaining from the causative toxin. What we have said about photochemic extinction of the action of fluorescent toxic substances can be nicely exemplified by a diagnostic study of my assistant, Dr. Gerrit J. Warnshuis. He observed that if a drop of a dilute solution of tuberculin were mixed with the citrated blood employed for the sedimentation test, the rate of sedimentation was diminished both in cancer, tuberculosis, and in the allergies. The rate is not changed thus in the normal blood except in some apparently healthy people whom we are watching with the suspicion that they are very early or pre-allergic cases that will later on show physical signs of disease that

can be detected. In these persons the ketenones bring about normalcy, in that the decrease produced by the tuberculin in the sedimentation rate no longer occurs, and also improve the health subjectively. Possibly an important prophylaxis is thus accomplished, and demonstrated. In the truly normal blood an increase in the sedimentation rate occurs, however, on addition of tuberculin.

Where disease exists, the addition of the tuberculin causes a lessening of the sedimentation of from a third to a half, roughly speaking. Ordinarily one would think that increasing the amount of poison would increase the sedimentation rate. But when we view the matter from the standpoint of photochemistry we can understand why it must be otherwise, for the added tuberculin absorbs energy in the same ranges as the toxin that is basic to cancer, tuberculosis, leprosy, and the allergies. Thus the radiation of electronic activity of the causative toxin is absorbed by the tuberculin and the injury to the colloidal dispersion is lessened proportionately. When all toxin is disposed of by the Ketenones, tuberculin addition to the blood, thus become normal, or to an otherwise normal blood, increases the rate of sedimentation. Thus we observe the toxic effect of the tuberculin only, on the colloids, and a diagnosis of recovery from this standpoint is made possible. We have found agar to behave in much the same way. It is interesting to note that the poison of malaria which is able to absorb the energy of the syphilis poison, is rapidly destroyed by our oxidation catalysts. Thus patients with regularly recurring attacks of malaria cease to have attacks after the Ketenones are used. The basic toxic structure

of the diseases concerned are thus similar, and yield to the same chemical attack.

Diet and Technical Precautions

Vegetable, fruit, and whole grain cereal diet, avoiding coffee, tea, chocolate, alcohol, spices, tobacco and the terpene derivatives of tropical fruits and their skins; the use of bowel lavage with salt water when necessary, fresh pure air, pure water, plenty of rest, and reasonable exercise constitute the regimen. One dose given intramuscularly is the favored practice. The treatment need not be repeated in some cases, but two or three injections at fourteen day intervals may or may not be required, depending upon the response of reaction or improvement. Three and a half or seven day intervals, or a three or twenty-fourth week interval may be the correct timing of repeated doses. Rarely are more than three needed in any case that is able to recover. The dose should never be repeated if improvement is in progress, especially at the seventh, fourteenth, or twenty-eighth weeks. And it is always best to let progress continue as long as possible, even for ninety-six weeks, or to complete recovery without repeating the dose. For open wounds cornstarch dressings are preferred. An accurate chart of the reaction features should be kept to establish the time relations of the recovery process of each patient.

Five grains of potassium iodine for a few days may be required to overcome colloid hydration or iodine deficiency that delay recovery.

A dilute solution of a highly unstable substance may easily be rendered inactive by the slightest contamination. Therefore in the preparation of the Ketenone the

most scrupulous cleanliness is required not only with regard to apparatus and materials, but even the air must be as pure. Air of ordinary chemical laboratories and the air of industrial cities is prohibitive of best success. In giving the injection care must be taken to clean the skin and remove all traces of the cleanser and thoroughly dry it before the injection is given, and it is reasonable to request after all of the fastidious care spent in avoiding even the most minute traces of contaminations in the preparation of the material that it should be drawn from the ampoule into the syringe only in a pure atmosphere. After the injection is made the selection of foods and medication must be done logically.

The most certain means of wiping out the recovery mechanism, let me repeat, is an anesthetic, ether being the most effective. Narcotics of all types are active in similar fashion in varying degrees and alcohol is not innocent. Fortunately pain is relieved in many instances very early after the glyoxylide is used and narcotics can be discontinued. Whenever possible other means of controlling pain than drugs should be used. Where there is colloid lysis because of infection, the action of anesthesia may so profoundly injure colloid dispersion that a come-back is made impossible or nearly so, and the benefit secured by the Ketenones is completely wiped out. Therefore if a surgical procedure is called for and cannot be delayed, it should be done first and the Ketenones should be given within a few days to help overcome the injury caused by the anesthetic as quickly as possible. It is well to repeat the dose in eighty-four hours or in a week in such instances.

Important as the colloidal state of living matter

is known to be both to metabolic processes and to immunity, the exact mechanism by which the structural surfaces function is not fully known. That the electric charges carried are important is quite evident and likewise is appropriate surface tension necessary to favor adsorption of the crystalloids whereby their concentration in ionized diffusible form is regulated. It may be argued that the reactive materials are thus concentrated in the colloidal surfaces and hence are more ready to enter into chemical reaction with each other. But I prefer to think that some substances, at least, by being adsorbed into the colloidal surfaces are reduced in concentration just at the surfaces to the point where the critical temperatures of their reactions are lowered to the body temperature, and hence can be carried on in optimum fashion under physiological condition.

The effects of soluble aluminum compounds, of bismuth, hydrogen sulphide, and the amines of putrefaction formed in the colon and in anærobic foci of infection and the effects of tannin on colloidal state have not been studied enough. Yet we know that these substances inactivate catalase and peroxidase of the tissue cells and hence they are primary factors in the injury of the oxidation mechanism, in that they permit the existence of stable peroxides that favor polymerization of the substances that should peroxidize and burn rapidly; and by injuring the protective oxidation mechanism of the intestinal mucosa they favor the entrance of disease germs and poisons into the tissues. Thus a faulty diet is the earliest factor, like the exhaustion of fatigue, in the causation of disease. These matters must be considered seriously in the treatment of disease and we do not neglect them in our regime.