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"PHYSICAL CHANGES UNDER OPHTHALMIC TINT"

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It is impossible to discuss ocular departure from the normal under changing hydrogen-ion concentrations without bringing into consideration possible causes of cataracts, diabetes, cancers, the anemias, intestinal tract ulcers and degeneration in general. Obviously, these latter in nowise alter the type or kind of ocular difficulties but are usually concomitant.

During my attendance at a basic course given by Dr. Spitler he mentioned the pH values as they pertain to certain ocular findings. This mention reminded me of a happening during the World War, when "black rot" appeared on the grain. Search for the cause revealed that it was due to a lack of acid and potassium. When those were added to the soil "black rot" disappeared.

I realize that some of the material herein to be presented is probably premature, nevertheless, the conclusion I reach seems inescapable in view of the demonstrable facts. Dr. Cross wrote a book on "Dynamic Skiametry" which was instrumental in securing an Optometry law in one of our states. Now we know that much of the material in Cross's book requires revision. It told only a part of the story. My story is that alkalosis and not acidosis is fundamentally the cause of certain of the degenerative conditions leading to opacities, and presbyopic in later life, which ocular conditions may be associated with the conditions mentioned above.

Acidosis is defined as: "An acid intoxication caused by an abnormal production of acids in the body and faulty elimination; an inability of the body to retain its normal alkaline reserves". An increase of ammonia or so-called "sour stomach" is not necessarily an indication of acidosis.

Alkalosis is defined as: "A condition in which the alkalinity tends to increase beyond the normal, due to an excess in alkali, or an excessive withdrawal of acids or chlorides from the blood". Chlorine is one of the basic elements of hydrochloric acid, an essential to indigestion. Please do not confuse hyperchlorhydria (an excess of hydrochloric acid in the stomach) with acidosis. Free hydrochloric acid is essential in the stomach.

In setting up standards we know that water freezes at 32 degrees F. At any temperature above that it is a liquid, and at any temperature below that it is a solid. Likewise, in Chemistry, when setting up a standard for relative acidity or alkalinity the standard is set at 7, the free hydrogen-ion concentration of triple distilled water. The chemists consider any figure higher than 7 as alkaline, and any figure below 7 as acid. Many diagnosticians seem to be more interested in the pH of the gastro-intestinal contents than they are in the pH of the blood stream. The former is very erratic and can be made to change by the mere set of looking at a lemon or selling limburger cheese. This free hydrochloric acid in the gastro-intestinal tract is also affected by the buffer action or other compounds present.

In view of the foregoing it seems quite senseless to make efforts to determine hydrochloric acidity and all that would seem to be necessary would be to determine the pH of "the middle man", that is the lymph which stands between the blood and the cells as both a nutrient and eliminative medium. The surface of the skin is much more acid than the cells or the blood stream. The skin has an antiseptic action, but even though the skin is more acid than the blood stream, or the cells it is much less acid than the gastric contents. This would indicate that even in the presence of this delicate balance within the body there is a constant seizing of acids, the by-products of metabolism. Normally the protein, "cracking", and the other end-products of metabolism. Normally the only pure acid the system requires is hydrochloric acid. Many water supplies have free chlorine added in order to increase the health safety faster. This chlorine, however, tends to attack any metal pipe or metal vessels with which it comes in contact, lessening the acidity.

Since the health of the individual depends primarily upon the health of each cell, and each cell in turn depends upon its lymph supply in the tiny inter-cellular spaces, it would appear that any altering of the fluids diffusing through these spaces would result in faulty cell function. This we know is true of plants, for the "black rot" was found to be a precipitation of iron in the sap channels of the plant which was corrected by the addition of potassium and acid to the soil. Blockage of the lymph supply or drainage could easily result in such degenerative changes as cataract, lessened cell tone, and other conditions mentioned above. Altered lymph pH undoubtedly will alter the electrical status of the cell in relation to the medium in which it lives.

The degenerative states are considerably on the increase. The 1900 statistics place cancer in the 20th position as the cause of death. In 1936 cancer holds second place in the table of statistics. Many causes have been advanced for this increase such as the removal of the hulls from the grain, aluminum cooking vessels, iron water pipes, et cetera. Any of these might, of course, have been a contributing factor, but obviously not one is of sufficient effect to account for such a rapid rise on the scale. It then occurred to me that it was about this time that health authorities began to treat drinking water with various chemicals in order to kill pathogenic organisms. My investigation of these processes and chemicals used in "purifying" water, and the resultant check-up of the pH of the water from several cities, resulted in the following significant finding: Instead of the pH being an approximate 7, it was 8 or higher.

In checking up on the water supply in my home city, I find that the pH of the water in the Lake at Spavinaw is 7, but that where the water empties into our city reservoir from the pipe it is higher than 7. This water flows through 72 miles of conduit, most of which is concrete. The exception is that the iron conduits are used where the pipe line crosses the streams of water enroute. It was then simple to understand. The chemical reaction taking place in the pipe would tend to lessen the acid contents of the water. Granting that the number of cancer deaths in 1900 was greater then listed, due to faulty diagnostic methods, I am wondering if an investigation might not show that the families in which these cancer deaths occurred at that date were using water from a well which was either metal cased, used a metal bucket, or used a metal container in which to keep their water supply. Could it be an unfair inference from the foregoing to say that the increasing use of metals for the handling of water and food containing water might be a contributing cause toward the degenerative diseases now

so common? For instance, the average cooking time for food in water is about 30 minutes. Boiling water for this length of time will give a mean raise in pH of .6. Therefore, the water in the cooking vessel with the food approximates 8.5 to 8.6. But you might say that more people have acidosis every year. But do they? I suspect that they are being "sold "on this idea by cleverly prepared propaganda.

The fact is, the human body is much better prepared to eliminate acids than it is to eliminate alkaloids. There is considerable evidence indicating that if the normal hydrochloric acid is present that the acids indicating that if the normal hydrochloric acid is present that the acids of metabolism will be adequately eliminated. Gastric hydrochloric acid is absent or diminished in pernicious anemic, chronic gastritis, and gastric carcinoma, two of which conditions are recognized as incurable.

The gastric acid cells in the stomach seem to be incapable of functioning in the absence of an adequate potassium content of the cell. It seems that a logic conclusion then is that systemic acidosis is really due to a deficiency of gastric hydrochloric acid, a deficiency too great to permit adequate and proper digestion of food containing tissue building elements. Nature than retains in the tissues the waste lactic and metabolic acids in an effort to retain body acidity, yet this cannot compensate for, nor take the place of gastric HCL.

Von Zant, Alverez, Eastman, Dunn and Berkson find a high incidence of a hypochlorhydria incident with an increase of age. In a series of cases they carefully excluded tuberculosis, cancer, secondary and primary anemias and arthritis. There remained 3,756 apparently healthy individuals of whom practically half were females and who showed a greater tendency toward low gastric HCL than men. Of several series consisting of one hundred women each, age 25, only 7 precent were found to have a low gastro-acidity, at age 45, 24.6 percent showed lessened acidity or anacidity, while 33 percent age 60, no longer had any fee HCL. This lessened free HCL tends toward the production of systemic alkalosis, for instance the absence of HCL in the small intestines will produce this condition. Toxic acids apparently require for their elimination the presence of HCL or its end products in the lymph stream: 1. When the pyloris is blocked and gastric acid is prevented from entering the jejunum we have an acute alkalosis, and often death in elderly people. 2. When the outlet of the stomach suddenly empties the gastric contents or evacuates, the alkaline tide ends and the urine becomes acid.

In health, lactic acid, the by-product of muscular activity, must be taken care of. Lactic acid is formed very slowly in muscles at rest but quite rapidly during exercises. The acid enters the lymph space, thence into the blood stream and becomes oxidized, releasing carbon dioxide, and the balance remains to be reformed into glycogen. If oxidation is not complete, possibly due to a lack of insulin, acidosis results. This acidosis must not be confused with gastric HCL.

Matthews in discussing "The formation of HCL says: "The Formation of HCL is a great puzzle and as yet unsolved. The blood itself is neutral or very feebly alkaline in reaction. It has a pH of 7.3 to 7.4, and it becomes more alkaline as the acid is separated from it. It is clear that the acid must be formed in some way from the sodium chloride of the body since the chloride alone is in sufficient quantity to supply the amount of HCL secreted".

This sodium chloride is in some manner hydrolyzed into HCL and sodium hydrates, the latter at once combines with carbonic acid to sodium bicarbonate. The sodium bicarbonate is returned to the blood and increases its alkalinity. It is then in part excreted in the urine and since it is itself alkaline to litmus, the urine may and generally does become alkaline to litmus during the digestion of a meal when HCL us being secreted.

Schropshire says: "The fight against every disease is digestion. Digestion, of course, is the first stop in the process of nutrition. Dr. Spitler has often told us that asthenics usually cannot gain weight on sweet milk and we all know people who have tried the use of milk in vain in an effort to gain weight. Guy reports that in a small children's camp difficulty was being experienced with children who were unable to keep milk on the stomach, it being vomited under the usual camp conditions. The picture immediately changed, however, upon the addition of diluted HCL. The milk was retained, and the children gained in weight. Authorities are in agreement that HCL is essential to digestion even though it is the only inorganic acid normally found in the body and its production depends upon a minute amount of potassium in the acid secreting cells of the stomach walls.

Since physiological responses are now recognized to be physio-chemical in nature, and that nerve responses are accompanied by electrical charges or fields, and since electrical charges of chemical origin are fundamentally a function of the electrolyte, it therefore, becomes imperative to study the latter, in this case the blood and lymph. The effectivity of an electrolyte is to a large extent dependent upon its pH status.

In my notes of the advanced work I find a reference to the effect of Parathyroid deficiency upon certain ocular structures, also this deficiency may result in tetany, spams, and athetoid movements. Syntonically, the ocular functional condition may be helped by the use of N/L-μ. In medicine some of the other symptoms may be remedied by the use of acid calcium phosphate, which also has a tendency to remedy the so-called nerve weakness and general debility.

Here it must be born in mind that calcium deficiency may result from a lack of availability, even though calcium may be in excess in the body tissues, yet in an inert form by reason of a lack of normal gastric HCL. In this latter contingency calcium may be deposited with urine and sodium in the joints, causing arthritis, the muscles, or even in the crystalline lens, resulting in cataract.

The point I am undertaking to make is that HCL normal to the body, is nature's weapon for the destruction of body toxins, to neutralize poisons and to keep in balance the pH of the tissues to prevent allergic reactions, and to maintain a proper lymphatic movement in the inter-cellular spaces, thus aiding in elimination.

Davies, Halden, Rust, Meyer, Smith and Apperly have demonstrated that an increased intake of sodium bicarbonate or other alkaline salts by mouth acts to stimulate an even greater gastric acidity. The intake of those alkalis calls for more acid for the chemical fixation of the alkaline metal, just as a drowning man may grab at a straw, so an alkaline man seizes acids. These researches indicate that if, instead of using sodium bicarbonate to lessen acidity, the patients were given diluted HCL instead, the acidosis would have been relieved in a few days, particularly so in pyknics, and perhaps in all other biotypes as well, May I make this statement as a partial conclusion form the foregoing: That lenticular

opacities may be a result of faulty function of the associated and supportive functions due to a "pseudo-alkalinity". We are taught that syntonically μυ aids toward acid reactions and μδ toward alkaline reactions.

In reality, the slogan, "maintain the alkaline reserve", if done, reserves a place in the graveyard for the victim.

The conclusion that I reach from the foregoing is that lenticular opacities and other degenerative diseases even inclusive of cancer and diabetes, may be the indirect result of an excess inorganic alkaline intalk. This to a large extent we find clinically can be compensated in the case of the eyes by the use of μυ which aids in maintaining the normal pH in the body fluids and cells. This would indicate that we should not discontinue syntonization of opacity cases in which μυ is the indicated prescription for a considerable length of time, at least long enough to insure a normal pH of 7.3 to 7.4. Guy and others indicate that medically HCL with potassium added might be of some value in these cases. This latter statement, however, to syntonists is only of academic interest. In cases where body acids are not sufficiently oxidized, we are all aware that the indicated Syntonic prescription is N/L – μδ.

This material and these suggestions are given to you in the hope that some of you will undertake clinical research along the Syntonic lines indicated and that in the research laboratory at the college you may find it possible to make a further study of blood chemistry changes under the frequencies mentioned.