

Chiropractic Reactions in the Light of Protomorphology

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Author's Note: It is not the purpose of this article to minimize the mechanical effects of adjusting procedure but rather to enlarge upon the physiological effects of articular adjusting in all types of patients. A study of this article will reinforce your convictions regarding the fundamental basis of chiropractic adjusting.

DR. ROYAL LEE, DDS, and his assistant, William Hanson, have published a text "Protomorphology—The Principles of Cell Auto-regulation." They say that "the experimental evidence we have reviewed indicates that a primary organizer of specific proteins does exist." This primary organizer is characterized by the presence of certain trace mineral groups in a highly complex arrangement. A layman would say that this primary organizer is the framework or skeleton for a specific biological protein molecule.

Now, you ask: What has all this wordy work to do with why Mrs. Jones feels so awful after a treatment and Mrs. Smith feels so well? The answers to this and many other exclusively chiropractic problems are found in this fine book—if you look for them.

Each time a cell divides the cell secretes a substance called allelocatalyst which sparks the synthesis of new tissue; a small amount of this speeds up cell reproduction, too much retards or stops cell reproduction. Therefore, when the cells have undergone a certain number of divisions and the tissues have accumulated a certain amount of this secreted substance, called allelocatalyst, they catalyze each other; a critical state develops wherefore the cell reproduction is prevented.

Alexis Carrel, who kept the chicken heart alive for so long, found that the heart would kill itself unless this accumulated allelocatalyst was removed. Dr. Turck has concluded that the allelocatalyst and the previously mentioned primary organizer of specific protein are one and the same thing—called now morphogen or protomorphogen.

The morphogen hypothesis basically entertains the following fundamental ideas: Chromosome fragments, called morphogens, accumulate in cell fluids as the basic cause of senescence and death. Morphogens are the determinants for every cell and living molecule; morphogens can only be synthesized in chromatin material but must be present in the

cellular fluids for synthesis of protein tissue. Again you ask, what possible connection does this possess to my everyday practice? Read on, and you will see.

Dr. Turck, in 1933, was led to a study of protomorphogens as a result of his observations at a greenhouse. He found that to secure optimum growth of plants he mixed 5-10 per cent exhausted soil to virgin soil. Plants grew better on this mixture than in complete virgin soil, all other factors included. This is a good example of the morphogen hypothesis: The exhausted soil was not only sterile because of exhaustion of food stuffs, but it was poisoned by an excess concentration of plant morphogens which inhibited and prevented further growth.

In the human, cellular tissue is surrounded by tissue fluids which require special mechanisms to supply food and eliminate wastes; the supplying of food and waste elimination is a constant problem.

Dr. Galin and many other biological workers concluded long ago (1889) that connective tissue can be saturated by poisonous substances floating in the blood stream even when normal toxin eliminating functions (viz. kidney) are normal, and conclusive evidence was shown that when kidney function was disturbed elastic connective tissue served as a depot for storage of various poisons. Are you beginning to see the light? Remember the widely heralded Russian discovery of A.R.C.S. of Bogomoletz?

Burrows (1926) has this idea of how tissue toxins or protomorphogens are bound into connective tissue fibers. He says that all cells liberate a substance called "archusia." In low concentrations this substance is beneficial to health and growth of cells; high concentrations of archusia cause cessation of growth and death of cells occur. Archusia and protomorphogen are one and the same. At certain concentrations of this material the cells secrete a fat-like substance called "ergusia." This seems to lower the cell's resistance and makes them more susceptible to this above-mentioned archusia. There is ample evidence that archusia is very similar to vitamin B, and ergusia is very, similar or identical to vitamin A. This same investigator Burrows added cells to plasma in the laboratory. He found that the result was a form of two-stage coagulation, the second stage being an actual

fibrin stage. He said that this ergusia works on fibrinogen precipitating it to fibrin and there is therefore a universal fibro-plastin present in all tissue.

Drinker (1942) says scar tissue formation is a similar phenomenon, being the result of excess fibro plastic growth to accumulation of substances ordinarily removed by lymph. Lee and Hanson suggested that this ergusia material is actually "archusia" or protomorphogen with a fatty envelope preventing toxic effects. So for the purpose of this article we must keep in mind the thromboplastic activity of protomorphogen and the conception of connective tissue as a local storehouse for discharged protomorphogen and other toxic substances. Can you now see how general adjusting of articulations may break up, so to speak, the toxic storage, and if the patient's over-all elimination is good, results are good? If elimination from all sources is poor, results are poor, which may improve with time.

The fundamental reaction in blood coagulation is fibrinogen to fibrin conversion which incidentally is the basis for white connective tissue. This reaction in man is precipitated by platelet breakdown; the substance in platelets responsible for this action is thromboplastin. Quick, who has spent his lifetime studying blood coagulation, says of thromboplastin: (1) Thromboplastic activity is diminished by liquid solvent extraction; (2) thromboplastin activity is diminished by heat but not destroyed; (3) thromboplastin possesses a limited degree of species specificity.

Recall the attributes of protomorphogen: (1) protomorphogen is extracted by liquid solvent; (2) relatively thermostable; (3) relatively species specific. Lee & Hanson contend that all physiological thromboplastin is either protomorphogen or protomorphogen end-products or breakdown products, but that all protomorphogen is not necessarily active thromboplastin.

The presence of protomorphogen in platelets suggests a means of blood stream transfer to facilitate excretion.

Lung tissue has a high thromboplastin activity—therefore a high protomorphogen activity. This is highly significant. Turck reports that when he sprayed minute amounts of protomorphogen into cages where cats were kept, it resulted in lethal inflammation of lung tissue. Does this explain the unusual susceptibility of some patients to lung irritations from practically no exposure or cause? The normal presence of a high protomorphogen content in lung tissue indicates that its ratio is close to the danger

point and a small excess may cause inflammation. As a point of speculation, Turck says that perhaps the British scientists who pioneered the entrance into the tombs of Egyptian mummies were exposed to protomorphogen-laden dust which eventually caused their unusual deaths; another point in speculation is the importance of argon, a rare gas usually present in air.

Dr. Hershey, of University of Kansas, found that ants died from fibrosis of lungs when there was no argon in the air. Argon is highly soluble in liquid material and may be a hidden insulator of protomorphogen since it is quite inert, and high concentrations of argon have been found in the brain. Placental tissue has a high thromboplastin activity, and it is likely that the mother is producing an embryo which is rapidly secreting protomorphogen by the active mitosis going on. This extra amount invariably shortens the coagulation time which we find so common and which is naturally necessary. Administration of tissue extracts have caused fatal thrombosis in pregnant patients, which have no effect on nonpregnant patients.

The basic problem under discussion is the manner in which the organism controls and disposes of the protomorphogen constantly secreted. Lee and Hanson say that raw protomorphogen is automatically masked by an association with a lipoid complex, that it is an active thromboplastin, and, most important to chiropractic thought, that it is attached to and combined with or absorbed on fibrin which is precipitated into connective tissue. The connective tissue is therefore a great storehouse more or less temporary for all protomorphogens secreted by all living cells. What happens to the stored protomorphogen is another matter we will try to demonstrate.

Burrows mentions that epithelial tissue secretes a lysin which dissolved the protomorphogen-induced clot so it is reabsorbed and used for growth. It is possible that morphogens transported in the blood stream are designed for attachment to the chromosomes and genes in terminal tissue. It seems not altogether impossible that morphogens from an embryo may find their way into the mother's blood stream and become attached to chromosomes in the ova, thereby influencing character of subsequent offspring. Here note that the opinion among animal breeders is widespread that pure-blooded females are ruined by successful mating with mixed breed males. Expensive animals have often been sacrificed as a result of such

accidents. Animal breeders are practical men and are not prone to sacrifice thousands of dollars on superstition. Sex hormones seem able to detoxify raw protomorphogen; thyroid is a denaturant also. Trypsin is a normal constituent of blood. It accelerates coagulation; it is likely the trypsin splits protomorphogen removed from connective tissue by other factors. Small amounts of Trypsin result in a relative incoagulability of the blood by stimulating heparin release. Heparin inhibits the release of thromboplastin. Heparin seems to maintain or stabilize blood platelets in preventing their release of thromboplastin, and, when combining with the protomorphogen in platelets, forms a complex.

In general, the following factors prevent or step down the lethal action of raw protomorphogen: sex hormones, thyroid, epithelial substances, trypsin, allantoin, vitamin F, and U.V. rays, etc. This, of course, is quite speculative but some evidence is available for the statement made above. Allantoin from the allantoin sac of certain animals is phenomenally effective as a healing agent, as is urea (carbamide), and has been used as such by many natural healing physicians.

Cholesterol seems to be involved in sheathing of raw protomorphogen, as is vitamin A. Some thymus activity is associated with the supply of lipid material for sheathing. Witness the so-called thymic complexion—smooth and juvenile as opposed to wrinkles and aged complexion when excess vitamin D is produced. Vitamin D is reported to break down organic phosphorus compounds, and thus may impair their sheathing activity.

All this is well and good, you say, but, as before, what has all this to do with my Mrs. Jones who reacts so strongly to treatment? Continue to treat our patient; use heavy adjustment but—a most important thought—insure that avenues of elimination and detoxification are open. Manipulate for thyroid activity; use small amounts of U.V. —not enough to build up vitamin D; pump liver to normalize cholesterol metabolism; use moderate stimulation of thymus. Doesn't the regression of the thymus at puberty suggest the reduced necessity for lipoidal sheathing material consequent to the reduction in protomorphogen metabolism when growth is attained?

Over 95 per cent of the plasma phospholipids in man contain choline. Choline

and methionine are partners. One functions best when the other is around; therefore a proper intake in the diet, rather than an indiscriminate supplementation of synthetic methionine and choline, is recommended. The unsaturated fatty acids are also involved with sheathing material, so the inclusion in the diet of such saturated fats as hydrogenated fats and oleo is foolish from this point of view. Iodine is utilized in some physiological form in the fatty acid transfer of lipoprotein protomorphogen molecules in the liver, and since Burrows found "ergusia" to be similar to vitamin A, and since ferrous iodide will relieve many symptoms of vitamin A deficiency, it is evident that iodine is an important element in the health and vitality of every tissue.

The acceleration of degenerative senile changes following prostate removal is well known. Huggins and McDonald have reported a fibrolysin in the prostatic fluid. The existence of a fibrinolysin in prostatic fluid further fits the protomorphogen theory in that it prevents the formation of products which would react with morphogens. Therefore, prostate normalization and paraurethral gland normalization in the female is necessary to maintain the proper protomorphogen metabolism.

A logical question one might ask is: If all this is so, why does not a young infant embryo kill itself by an overabundant production of this protomorphogen? Many do. The placental barrier, notwithstanding, and the special anti-body system, which must be developed after the placenta no longer is the "iron curtain," soon develops as a result of the contact of tissue protomorphogen, which reacts, with immune centers, to produce a natural antibody, although the lower immune response of the newborn is an oft-demonstrated phenomenon.

Another possible avenue of protomorphogen elimination is bile. The bile of hibernating animals accumulates as high as four times the normal content. This may be an expression of the accumulation of protomorphogen and products normally excreted by the biliary route. Reh fuss and Williams have identified a fraction of bile, which is exceedingly toxic, to various forms of animal and vegetable life. The improvements following removal of bile by duodenal drainage is a consequence of the degree of detoxification from this procedure, they say. This may well be protomorphogen.

There is evidence that the kidney can excrete protomorphogen and thus assist liver and bile. Kidney enzymes split the protomorphogen molecule which collects in the renal capillaries;

the diffusible residues may appear in the urine; non-diffusible in the liver-bile pattern.

In senescence the protomorphogen cycle can be outlined in this manner:

1. Protomorphogens accumulate due to gradual impairment of elimination system.
2. A progressive nerve inhibition with more dystrophy and less trophic impulses.
3. This causes increased permeability.
4. This allows pH changes and electric potential changes.
5. This process continues with progressive decrease in cell activity and changing morphology until some vital organ succumbs and death ensues.

Thus there is a general damming up of protomorphogen throughout the organism and a disordered elimination with low concentration in some and high concentration in others. Some individuals may lack the means to make themselves available of their own necessary protomorphogen with the resultant lack of healing. When the elimination mechanism, on the other hand, is inadequate, when the kidney, liver, and reticulo-endothelial defenses are down, the addition of factors which would make more protomorphogen available merely make the blood and tissue fluid too high. Witness the disastrous effect of thyroid and sex hormones in elderly patients. The protomorphogen elimination route is a complicated and nicely balanced system which may compensate for minor inadequacies, but which is particularly sensitive to major unbalances which may be promoted inadvertently by therapeutic measures.

1. Cancer seems to be associated with extraordinary concentrations of protomorphogen in local tissue fluids.

2. The lipoidal "wrappers" have a tendency to prevent these accumulations from becoming carcinogenic.

3. Irritation assists in the local accumulation of protomorphogen and thus may lead to cancer.

4. X-rays and carcinogenic hydrocarbons have been shown to destroy or dissolve the sheathes which protect from protomorphogen.

Therefore, to sum up, general adjusting is of inestimable value. Kidney, bile, liver, and spleen activity is necessary for proper elimination; various other measures are useful in aiding elimination such as U.V., etc. (See above.) The relative age of the patient is a good criterion for the amount of depot protomorphogen in their connective tissue; a careful observation of the results of general articular adjusting will guide as to further articular adjusting or to concentrate on elimination, center manipulation, and treatment. A nutritional base of wholly natural unprocessed meats, fruits, vegetables, and grain products serves to offer the springboard for the organism to cure itself faster. There are many of us who have helped many people without knowing precisely why. Perhaps here is a partial answer. My thanks to Drs. Lee and Hanson for the liberal use of quotations from their book and the use of their basic ideas to explain some of our problems.

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