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THE RELATIONSHIP BETWEEN VITAMIN D AND VITAMIN F

To begin by a review of the primary facts we recall that Vitamin D maintains the carrying capacity of the blood serum for calcium and phosphorus. In case of Vitamin D deficiency the blood stream fails to take on calcium and phosphates from the alimentary system. The administration of Vitamin D in such a situation will immediately raise the blood content of both calcium and phosphorus.

Vitamin F is, on the other hand, a depressor of the blood calcium. It, however, cooperates with Vitamin D in insuring an adequate assimilation of calcium, since the lowering of blood calcium is accomplished by its diffusion into the tissues. The two vitamins, therefore, while obviously antagonistic, if one limits his observations to the blood-calcium levels, are partners in the basic function of assimilating calcium, and transferring supplies of that element from the alimentary system to the bone, the interruption of which sets up that syndrome known as rickets.

It is, no doubt, this cooperative function of Vitamin F that is responsible for the REVERSAL of effect of Vitamin D when it is administered in quantities beyond the "threshold of tolerance" of the subject. Then the flow of calcium is reversed, from the tissues into the blood serum. This reversal of action accounts for the observed fact that a deficiency or excess of Vitamin D may be similar in effect. (1) It indicates that the RESERVES OF VITAMIN F ARE EXHAUSTED temporarily.

"Duguid stated that Vitamin D with acid sodium phosphate produced severe tubular nephritis but with alkaline phosphate there was more extensive calcification. Randall has called attention to the occurrence of renal calculi in Vitamin D deficiency. This observation again emphasizes the similarity of the effects of deficiency and excess of Vitamin D." (1)

It also indicates the unquestionably low "buffer" supply of Vitamin F in such cases, and explains why the reversal may occur in one patient under a given dosage and not in another.

Recent researches have shown that the natural sources of Vitamin D such as cod-liver oil, butter and yeast also contain potent forms of Vitamin F. (2) It is this Vitamin F of cod-liver oil that, no doubt, is responsible for the vast difference between the clinical performance of the cod-liver oil and purified or synthetic Vitamin D (such as Viosterol), that is so well known today. The latter products apparently owe their toxicity to the lack of the Vitamin F, which is necessary to complete the delivery of the calcium to its destination, and with-

out which the blood-calcium levels may reach toxic figures.

The probable presence in cod-liver oil of Vitamin F was predicted in these pages (3) with the comment that "this would account for the great difference in the toxicity of cod-liver oil D as compared to irradiated ergosterol." Predictions based upon clinical performance are usually sound.

Recent researches have pointed out the presence in cod-liver oil of a factor OTHER THAN THE VITAMIN D that is specifically destructive to the bacillus tuberculosis. (4) The older books on materia medica lauded cod-liver oil as a most useful remedy to combat tuberculosis. Later, cod-liver oil was branded as a quack remedy by the "smarter" young generation, who said that the value previously observed was merely due to its fat content, and that butter or lard would be more acceptable substitutes. Billings (5) cautiously stated in 1914 as to its use in tuberculosis - "cod-liver oil is still highly recommended though it is doubtful whether it is of greater value than other easily digested fats." Boissevain (6) has found that the Vitamin F complex caused an attenuation of virulence of tubercle bacilli. Platonov (7) cited the fact that tuberculosis increased during the World War when fats were scarce (causing a low Vitamin F intake). He experimentally demonstrated that guinea pigs were immune to lethal doses of tubercle bacilli that had been treated with the Vitamin F complex, and suggested that the natural immunity of the horse to tuberculosis was probably due to the high content of the Vitamin F complex in its blood. (Is that why the horse thrives best on oats, the highest carrier of Vitamin F among the common grains?) Archard et al (8) found that the serum content of Vitamin F complex was lowered in the acute stage of infectious disease, rising to normal with recovery. They concluded that the resistance of the patient was proportional to the serum content of Vitamin F complex. (Vitamin F complex throughout this discussion is intended to mean the unsaturated fatty-acid component, of which the biologically active fraction is yet to be identified.)

It is tragic that such vitally valuable FACTS have so long been overshadowed by theory. The report of the University of Wisconsin investigators stated that tuberculosis of the skin (lupus) was particularly amenable to the application of cod-liver oil, but not to Vitamin D alone. Stille (9) in 1868 stated in his "Materia Medica" that lupus was more easily cured by the use of cod-liver oil than by any other remedy. He also quoted Dr. Walshe on the use of cod-liver oil for tuberculosis (Pulmonary) as follows:

"It more rapidly and effectually induces

improvement in the general and local symptoms than any other known agent."

But the careful observations of the practicing physician are ignored and ridiculed by the professors who compile the text books, UNLESS a plausible theory is attached.

I am stressing this point to EMPHASIZE to every physician who reads this the vital importance of carefully investigating the reliability of all his sources of information, for the responsibility is HIS ALONE if he is misled by false prophets and permits his patients to fail to regain their health thereby.

Stille also stated in 1868 that cod-liver oil was occasionally an effective remedy for diabetes. We have had many reports that our Vitamin F concentrate was useful in controlling the blood sugar in diabetes. Now we have more evidence:

". . . The administration of linoleic acid by mouth lowered the blood sugar in diabetics sometimes as much as 100 per cent in from three to four hours." (10)

It has been said, too, that oatmeal was assimilable by the diabetic without the appearance of any of its starch as urinary sugar (first observed by Von Noorden). Not all diabetics react favorably, but the students of diabetes have been baffled to this day for an explanation. Some have even called the "oatmeal treatment" the "carbohydrate treatment"!

Now these facts all fall into their proper place. Oatmeal as stated on page 31 of this publication was first observed to be a source of Vitamin F long ago. Some diabetics respond to the Vitamin B treatment, some to the Vitamin F treatment. It is certainly worthwhile (for the patient) to make a test of a few days on first one and then on the other, one tablet with each meal, to see if his pancreas has yet arrived at the state where it is totally unresponsive to kindness.

Diabetes should be called the "white-sugar disease." Keep in mind the South American Honey Bear referred to on page 80 of this publication which developed diabetes on a diet of corn syrup. Natural carbohydrates, such as cereals, all have BOTH VITAMIN B and VITAMIN F in their germinal cells, and as Dr. Spies of Vitamin-B fame says, it is A CRIME to sell cereal products without the vitamins in them to insure their metabolism!

In discussing cereal products we must not forget the old poisoner - BLEACHED FLOUR. Heart disease in general should be designated BLEACHED-FLOUR DISEASE. We cannot pick up a paper without reading of the sudden death from "bleached-flour disease" of some prominent man in the prime of life.

Why is bleached flour on the market (except in New York City)? Why, simply because

flour is perishable unless it is devitaminized by bleaching. It becomes a permanent commodity when bleached; it will not support the life of a gnat or weevil, and the uninformed human creatures who are fed the stuff fail to get their allotment of vitamins. What results? Lacking the Vitamin B complex, the nervous system degenerates. (First "nervous indigestion" for ten years or so, then heart symptoms, arrhythmias in the beginning, fibrillation in the end.) The heart may speed up, or slow down, sometimes to half speed like an automobile motor with half of its ignition system out of commission. (Heart block appears to be a specific reaction to the degenerative effect of Vitamin-B-complex deficiency.) Then, again, the deficiency of Vitamin F may cause a calcification of the coronary arteries with attendant angina pectoris. On the slightest exertion the victim is seized with the most excruciating pains in the chest. It is no coincidence that Vitamin F has proven the most valuable vitamin remedy for this condition. (Vitamin C is also useful.)

Yes, half of us are starving to death and without the slightest suspicion of malnutrition, either on the part of the patient or of the doctor.

In fact, the doctor often has less suspicion of the true state of affairs than many laymen. Someday the designation "doctor of medicine" will become of less importance than "doctor of nutrition". The past definition of "medicine" is that it is something of no reference to health, of no interest to the well person.

The "doctor of nutrition" will be consulted less by the sick than by the well. There are more men employed today in watching the factors that affect the performance of our automobiles - checking the air in our tires, checking the oil levels, checking the freezing point in our radiator solutions and checking the fuel tank, than there are MAKING REPAIRS. But the DOCTOR OF MEDICINE is a DOCTOR OF REPAIRS. Is there not SOMETHING wrong with our method or with our philosophy? Is it the doctor's fault, or isn't it, that we let ourselves break down before seeking counsel?

- (1) Reed, Struck and Steck, Vitamin D, page 173, University of Chicago Press, 1939
- (2) Annual Review of Biochemistry, Vol. VII, pages 82, 86 and 87, 1938; Ibid, Vol. VIII, page 139, 1939
- Mathews, Physiological Chemistry, Sixth Edition, pages 197 and 215, Williams and Wilkins Co., Baltimore 1939
- (3) Vitamin News, published by Vitamin Products Company, page 36, October 15, 1934
- (4) Badger Quarterly, U. W. Finds That "Vitamin Fraction" Cures Skin TB, 1:1:6, January 1939
- (5) Billings, Forchheimer's Therapeutics of Internal Diseases, Vol. III, page 507. D. Appleton & Co., 1914
- (6) Boissevain, The Action of Unsaturated Fatty Acids on Tubercle Bacilli, American Review of Tuberculosis, 13:84-90, 1925
- (7) Platonov, The Influence of Unsaturated Fatty Acids on the Virulence of Tubercle Bacilli, American Review of Tuberculosis, 21:362-369, 1930
- (8) Archard, Grigaut, LeBlanc and David, The Lipoid Equilibrium of the Blood Serum in Acute Diseases, Journal de Physiologie et de Pathologie Generale, 26:415, 1928
- (9) Stille, Therapeutics and Materia Medica, Third Edition, Revised, Vol. II, page 810, Henry C. Lea, 1908
- (10) Hinsberg and Holland, The Iodine Absorption Value of the Blood Fat in Normal and Pathological Conditions, Klin. Wchnschr., 12:1601-1602, 1933