VITAMIN NEWS

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A Few Facts in Review

A new term has been coined to describe and identify vitamin factors that produce a single effect, where this effect may be obtainable in various degrees of activity by a number of chemically different factors, or where different factors are necessary to produce the same effect in different species of life. The term that has been adopted is VITAMER, derived from the chemical term ISOMER, which is a substance differing from another in molecular construction, but the same in proportions of its content of the elements. (SCIENCE, January 15, 1943, reporting the action of the Gibson Island Vitamin Conference, July, 1942--p. 57.)

"Whereas isomers are compounds with a given molecular formula, vitamers are compounds with a given vitamin activity and usually possess different molecular formulas."

Vitamins for ten different vitamin categories are listed; B_1 vitamers, D vitamers, K vitamers, niacin vitamers, pantothenic vitamers, pyridoxine vitamers, para-aminobenzoic acid vitamers, and various biotin (H) vitamers are now known.

The word "vitamer" was necessitated by the growing recognition of the fact that a specific vitamin effect in different species of animals (or plants) was often produced by quite different compounds, chemically considered. Therefore, the word "vitamer" means only that unless the species of animal that is to be fed a vitamer in discussion is also specified, the vitamin is not yet identified. "We reiterate the principle: Animal tests are indispensable to determine what the symptoms of vitamin deficiency are, but are worthless to determine what will cure those symptoms when observed in the human species." (VITAMIN NEWS, VOL. 8, p. 133, November 6, 1940.)

It is apparent that to describe a vitamin and offer a standardized "unit" for use in the determination of a schedule of treatment for a deficiency disease, it is necessary for the manufacturer to have some kind of idea from clinical experience as to the effects of his product in treating human cases.

The products of this company always have had their vitamin activity determined by tests upon human subjects, and have been made only from food sources that were found, by ages of experience, most suitable for human food.

That is why so many later discoveries of vitamin uses were anticipated by physicians prescribing our products. Back in 1934 we stated in Vitamin News (p. 31) that our vitamin E complex was effective in the relief of certain muscular pains, apparently of neuritic or arthritic origin, that seemed to originate from "small centers of activity," and were not variable in location.

This seems to be a fairly exact description of the pains of fibrositis, now known to be usually relieved with vitamin E concentrates. Dr. Steinberg, in an article in the "New York State Journal of Medicine" (April 15, 1942) described the treatment of fifty cases of fibrositis; he says that forty-eight cases were completely relieved of all symptoms on treatment with a vitamin E complex or wheat germ oil. Fibrositis is defined as a "rheumatoid disorder characterized by a non-suppurative inflammatory reaction in the white fibrous connective tissue, anywhere in the body, with a swelling and proliferation of the fibrous tissue in response to chilling, toxic influence, trauma, or fatigue. Acutely tender fibrous bands and nodules frequently form in the nerve sheaths, and press on arterioles and nerve filaments, causing muscle spasm and secondary pressure effects."

Where the fibrositis was secondary to arthritis, the value of the vitamin E was less definite. Dr. Steinberg classifies various forms of the disease that "masquerades under various titles" as lumbago, torticollis, muscular rheumatism, tendinitis, myositis, myositis ossificans, myasthenia gravis, and various other forms.

We recall that back in 1933 an Ohio physician reported to us the cure of a distressing case of myositis ossificans with "Catalyn." In 1933 there was no recognized unit assay method for vitamin E. BUT THE SAME CLINICAL TEST CAN BE MADE WITHOUT ANIMAL TEST UNITS, and the drug store shelves are full of products carefully engineered to produce specific results in test animals, but sold without tests to determine what they will do to the human species.

One thing is definite. The use of our products has always been limited to recommendations that involve the use of no more than the daily requirement (except in acute cases) of any vitamin complex. We have not found it necessary to go over this amount WHERE THE NATURAL SYNERGISTS OF THE VITAMIN ARE PRESENT. (That is the "complex.") "This...brings out the fact which is true for most of the vitamins, namely, that several related compounds may have similar biological action but the degree of their activity varies." (ELVEHJEM, "The Scientific Monthly," Recent Advances in our Knowledge of the Vitamins, p. 99, February, 1943.) Personally, we believe further that these members of a complex of varying activity are of selective value to various tissues and organs of the body, for various separate purposes, so that to substitute a single synthetic factor for the group is a most unwise and futile attempt to simplify a problem on which our future well-being hinges. It is undoubtedly the lack of such synergists that causes the use of synthetic vitamin B (thiamin chloride) to have

such startling effects as to create sterility in the succeeding third generation. Barnett Sure, (Influence of Massive Doses of Vitamin B_1 on Fertility and Lactation, J. of Nutrition, 18, 2:187-194, August 10, 1939) says that two or three times the daily requirement of B_1 will in effect "castrate the grandchildren" of his test animals long before they are born. But the makers and purveyors of thiamin have no more heeded this discovery in 1939 of Sure's than the sellers of viosterol heeded Steenbock's discovery that it was not vitamin D in 1933. We know now that natural forms of vitamin D such as cod liver oil contain enough vitamin F to synergize and normalize the toxic effects of vitamin D to the point that no toxic symptoms appear. No doubt natural vitamin B complex is also harmless in overdosage if not denatured by the elimination of natural synergists. Stepp says the anti-paralysis factor cannot be removed from natural vitamin B_1 even by repeated crystallizations. (STEPP, KUHNAU, AND SCHROEDER, The Vitamins and Their Clinical Applications, p. 24.)

There is an epidemic today of commercial promotion of "anti-gray hair" vitamins, including para-aminobenzoic acid. It is here too that the dangers of a single synthetic factor are great. This factor has a characteristic shared by other constituents of cells that shows up when a pure concentrate or synthetic form is clinically tested. Para-aminobenzoic acid, gluthathione, and betaine to some extent, all tend to stimulate the growth of microorganisms as well as to stimulate the patient. Any focal infections such as appendix, tonsils, tooth abscesses, gingival pockets, etc., may flare up explosively after a few relatively small doses of any of these factors are taken. (Two to ten grains can do it.) Or if you are fighting off a cold, it will really get the upper hand on taking one dose of these products. All these factors have the highly desirable effect of increasing endurance and vigor; are powerful anti-fatigue food elements. But they do the same thing to the germs, unless you at the same time get more of the specific things that keep the germs under control, and of which the C complex is the main representative. Lately it has been shown that the vitamin K factor of the C complex is a valuable preventive of tooth decay, in that its presence in the saliva stops the growth and activity of the acid forming bacteria that are responsible. It is interesting to recall that the sugar cane juice is naturally loaded with both vitamin C and K and the minerals that build teeth, but they are all eliminated in refining.

This finding is of particular interest to your editor, as he commented in 1923 as follows: "Sajous has demonstrated that vitamin C is always present in normal saliva where it 'sustains the defensive oxidation which renders bacteriolytic and anti-toxic enzymes effective.'" (The Systemic Causes of Dental Caries, December, 1923.) It appears that the facts are not so hard to find, if we are really looking for them. If this information as first established by Sajous ("Dental Cosmos," 1923) had been put into practice at that time by requiring that all sugar made and sold in the U. S. had to be so processed as to retain its minerals and vitamins, can you imagine what disease and degeneration could have been headed off? Not that it is even yet possible to make such a sugar, but if we were as energetic in prosecuting the war against disease as we are in prosecuting the war against those who object to our tariff system, the solution would soon be found. The saving in the elimination alone of the vast array of dental carpentry necessitated by the tooth damage would pay off the bill of research costs a thousand times over, no doubt.

"Thus the present generation suffers for the sins of the past and we die because our ancestors dissipated their wealth in armies and navies, in the foolish pomp and circumstance of society, and neglected to provide us with a knowledge of natural laws. In this sense they were the murderers and robbers of future generations of unborn millions and have made the world a charnel house and place of mourning where peace and happiness might have been. Only their ignorance of what they were doing can be their excuse, but this excuse puts them in the class of boors and savages who act according to selfish desire and not to reason and to the calls of duty. Let the present generation take warning that this reproach be not cast on it, for it cannot plead ignorance in this respect.....

"Where then, are the great laboratories of research in this city, in this country, nay in the world? We see a few miserable structures here and there occupied by a few starving professors who are nobly striving to do the best with the feeble means at their disposal. But where in the world is the institute of pure research in any department of science with an income of $100,000,000 per year? Where can the discoverer in pure science earn more than the wages of a day laborer or cook? But $100,000,000 per year is but the price of an army or of a navy designed to kill other people. Just think of it, that one per cent of this sum seems to most people too great to save our children and descendants from misery and even death!...." (ROWLAND, Henry A., President's Address to the American Physical Society, October, 1899, Science, X, 825-833, 1899.)

Edited by Royal Lee

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