



VITAMIN NEWS



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VITAMIN "F"

(A growth-promoting vitamin of our own designation)

As announced last June in *Vitamin News* our Vitamin F is a calcium-diffusing principle that causes the distribution of blood calcium to the muscular system, and probably to other tissues.

It is found in cereals, (first in oatmeal by Mirvish) especially rye (rye owes to its "F" its known property of causing muscle rather than fat development in growing animals) and, no doubt, in wheat germ to some extent. (See Blumberg, *Journal of Biological Chemistry*, page 277, January 1935.) The latter article offers evidence that there is present in wheat germ oil a factor besides Vitamin E, which is necessary to growth, that we consider identical with our Vitamin F.

The term "Vitamin F" has been an orphan in the vitamin family since "B₂" was changed from "F" to "G". Therefore, we appropriated it with possibly too little regard for the formalities when we applied it to our new calcium metabolizer - especially in view of the fact that it was being applied at about the same time to the unsaturated fatty acid (linoleic acid) that has already been found to be a necessary dietary constituent. (This is the Vitamin F referred to besides the growth vitamin in the Blumberg article above.)

However, it is not exactly in line with the past practices of terminology to put fatty acids in the vitamin category. The term, "Vitamin", has been reserved to describe something required in far more infinitesimal amounts, because of its catalytic rather than nutritional effect, and which had to have some name during the years of investigation necessary to determine its chemical nature. So in all probability linoleic acid will not be officially accepted by this title.

Clinically speaking, the main use so far developed for our Vitamin F concentrate is in the treatment of stubborn prostate cases that fail to respond properly to "Catalyn". (Maybe one out of ten of those receiving "Catalyn" will get added benefit from one Vitamin F tablet a day in addition.)

It has been found to have an effect on the eye musculature, too, in that if the person taking the one "F" tablet a day is wearing spectacles, he may find in a couple of weeks that he will need to be refitted with weaker lenses.

This fact, together with the known action of "F" as a diffuser of calcium, suggested that it might be valuable in cataract, but experience has not encouraged us in that respect. The use of "Catalyn" and a certain amount of "V-P Phosphade" has been the most successful combination to date, with Vitamin A and C concentrates offering the best promise as supplements where indications pointed toward their specific deficiency.

The indiscriminate use of "F" is not to be encouraged. It has the opposite action of Vitamin D on the blood calcium, (it is a good remedy for persons susceptible to sunstroke, as noted last June in these pages) and is, therefore, capable of causing radical effects in heavy dosage. This reduction in blood calcium is due to the increased diffusibility of the calcium when "F" is present. (These remarks may apply to magnesium, too, both as to "D" and "F".) If the alimentary supply of calcium is deficient - as is usually the case - Vitamin F can bring about an oversupply to muscular tissue at the expense of the requirements of other classes of cells that more directly depend on the blood calcium. Vitamins A and C are known to accomplish some of their effects (maybe all) through their influence on the alkali ion supply to the sympathetic and parasympathetic nervous systems. (See Vitamin News, April, 1935.) There is no doubt but that "F" also is a factor in the whole alkali ion balance, but we are as yet not prepared to offer an acceptable complete hypothesis. It is not impossible that "C" and "F" act in synergistic cooperation.

The use of "F" because of its calcium-diffusing power, was at once suggested for arthritis. The clinical reports have been very contradictory. In some cases, the arthritic pains were quickly controlled. (They often are aggravated in the first stages of "Catalyn" treatment.) In other cases (hypertrophic arthritis) where the ankylosed joints had begun to break apart through "Catalyn" treatment, the use of "F" caused a freezing again. The latter result is reasonable in that "F" is a distributor of calcium to the tissues, and in hypertrophic arthritis there is already too much. In atrophic arthritis the results seem to have been beneficial, as would be expected.

The role of the thyroid as the physiological eliminator of calcium seems to have been overlooked. It is known that the most consistent result from the administration of thyroxin is the quantitative elimination of calcium. The metabolic rate should be determined in any serious case involving hypercalcemia. It is well to recall also that the administration of vitamins (as "Catalyn") while being the first physiological remedy for hyperthyroidea, will also prevent toxic effects from the administration of thyroid in subjects that otherwise cannot tolerate any dosage (this being due to the paucity of vitamins in the diet - as well as to nervous strain and overwork - that exhausts the vitamin reserves).

The thyro-adreno-pituitary group requires Vitamins A, B, C and D for nutrition. To include gonad and prostate we must include Vitamins E and F. Unbalance in the functional relationships of these endocrines is most likely to occur in middle age, when the endocrine activity normally slows, because a parallel rate of regression of the different glands is not maintained. The most common disturbing factor is endocrine starvation - or vitamin deficiency. The hormone output of the thyro-adreno-pituitary group is apparently controlled from a common center through the sympathetic innervation, and this stimulus often causes an overactivity of one member when another fails to respond. Vascular hypertension results if the adrenals are overactive from this cause; hyperthyroidea, if it is the thyroid. That is why the surgical remedy of cutting the nerve supply to the overactive gland has been a demonstrably effective remedy. Such heroic measures are seldom necessary if the dormant endocrine is revived by vitamin therapy - "Catalyn". It produces results in almost all of the hyperthroid cases and about 80 per cent of the hypertensive.