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SUPPLEMENTARY NOTES ON VITAMIN B

Since the publication of Vitamin News, February 15, on Vitamin B, we have been following up the clinical performance of this vitamin, and can offer the information below regarding its uses that deserve immediate attention.

It now appears that Vitamin B is an important factor (probably THE important factor), in both diabetes mellitus and pernicious anemia.

Ever since the introduction of "Catalyn" we have received continuous reports of favorable results in diabetes. Until we had enough data to offer a logical explanation and demonstrate what particular vitamin or combination of vitamins were responsible for this action, we hesitated to make definite recommendations for its use for this disease. At the present time, however, we have established these facts:

1. In cases of diabetes associated with low blood pressure, or where there is a history of low blood pressure, Vitamin B may be expected to be of definite benefit.
2. In cases where there is a history of high blood pressure, the best treatment is "Catalyn", or Vitamin C.

Labbe, Nepveux and Gringoire in Bull. Acad. de Med. Paris, 109:689-702, May 23, 1933, make the following statement:

"In 8 out of 11 cases treated with the B vitamin resulted in an important fall in glycosuria and a notable increase in the hydrocarbon tolerance. In two other cases the vitamin did not modify the glycosuria nor influence the diabetes at all. In the three last cases, however, the diabetes was very serious and had complications, also the vitamin experiments lasted only fifteen days. In the 8 cases favorable to the treatment . . . the amelioration was slow and progressive. Increasing the tolerance a very little by a gram a day, the fall in glycosuria averaged 1 gram 70 a day . . . When the giving of Vitamin B was stopped the glycosuria reappeared slowly, depending upon how long the vitamin treatment had lasted and to what extent the reserves had been reenforced . . . The effect on the general condition from the Vitamin B treatment was very favorable. One case put on weight 8 kilo. in $2\frac{1}{2}$ months, another 7 kilo. in 2 months. All, even those whose glycosuria was not diminished, felt greatly benefited from the treatment; they were much stronger and happier . . . The dose of 15 grams of vitamin material procured an increased sugar tolerance of from 40 to 50 grams, as much as from 32 to 40 units of insulin. This improvement was slow and progressive. Insulin treatment was kept up in the beginning just as if it were the only treatment. In proportion to the increased tolerance of the vitamin treatment, the insulin was diminished or suppressed entirely. The vitamin therapy as given by mouth was much appreciated as a distinct advantage."

We can draw the conclusion, therefore, that if there is any Langerhansian tissue left, the vitamin therapy can be expected to be of benefit through restoration of function of these cells, by a renewed supply of the nutritional elements necessary for the elaboration of the specific hormone. It places diabetes mellitus definitely in the category of a vitamin deficiency disease.

Pernicious anemia also seems to be deserving of the same classification. Vitamins B, C and A are all factors, and should be tested in each case in the order named to determine which is most important. We are completing some work on Vitamins E and F to be announced in the next News that indicates their connection with anemic conditions, also.

The deficiency of Vitamins B and C can cause degeneration of the bone marrow, which is admittedly the major etiologic factor in pernicious anemia.

"Rats stunted by Vitamin B deficiency have bone lesions that are identical with those seen in guinea pigs suffering from acute and uncomplicated scurvy. Marrow elements are destroyed and replaced by reticular tissue supporting widely dilated congested blood vessels."
(Shipley, McCollum and Simmonds, J. Biol. Chem., 49:399, December 21.)

The use of "Catalyn" for pernicious anemia, plus the supplementary use for a week at a time of the single vitamin concentrates to determine which are important in each individual case (two tablets a day) will often bring out unexpected results. There are so many contributing factors in the causation of pernicious anemia that such procedure is necessary, but these factors probably are all of a deficiency nature. The use of liver extracts, etc. have been effective only because they contained some principle or other than had a bearing in this connection. The limitations of such measures are becoming more and more apparent today, however, and vitamin therapy is unquestionably destined to replace them. It is a far simpler matter to determine what vitamin or group of vitamins are missing, than it is to find out what hormonal principle has been starved out of existence by vitamin deficiency, and attempt to supply such specific hormones.

When the pathological condition has reached the final situation of complete inadequacy or death of the secreting cells, there is no hope of restoration of normal function by vitamin therapy, however, and the continued use of the specific hormone is the only possible alternative. Even in such cases it will be found that the use of the proper vitamins will greatly improve the general physical condition of the patient. Diabetes is the most outstanding example of this set of circumstances. In pernicious anemia it is probable (to judge from our limited knowledge to date) that vitamin therapy is the best treatment at any stage of the disease.