

Effects of Vitamin B₁₂ in Multiple Sclerosis.* (18319)

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In view of the improvement of neurologic disease in patients with pernicious anemia following treatment with vit. B₁₂ the following study was undertaken (1-3). During this period Lereboullet, Pluvinaige and Coty (4) reported that there were satisfactory results observed in 7 patients with multiple sclerosis treated with vit. B₁₂ in doses no greater than 30 μ g every other day. Schumacher (5), on the other hand, observed no beneficial effects after 6 months of treatment with 30 μ g of vit. B₁₂ daily.

Material and methods. A group of 4 persons with multiple sclerosis was selected. Their ages were 32, 37, 39 and 42 years, and the duration of their disease was 11, 16, 11 and 7 years respectively. They had all been patients at the hospital for many years and adequate baseline records of their neurologic status, as well as responses to previous therapy, were available. Before treatment each patient had a complete hematologic survey consisting of a hemoglobin estimation, erythrocyte and leukocyte counts, reticulocyte studies, bone marrow examination, and a reevaluation of the neurologic status. Each case received 1050 μ g of crystalline vit. B₁₂, intra-

muscularly, daily. Reticulocyte counts were done each day for 2 weeks. Complete blood studies including bone marrow surveys were made every 4 to 5 weeks. Three of the patients were treated for 5 months, the remaining one for 4 months. During this period frequent observations on the neurologic status were made by various examiners. One other patient, a 46-year-old male, with amyotrophic lateral sclerosis of 3 years' duration, was treated with 350 μ g of vit. B₁₂ intramuscularly, daily for 5 months.

Results. There were no untoward systemic reactions following injections of these large doses of crystalline vit. B₁₂. Occasional local pain was reported by some of the patients, but this was transient. No clinical improvement in neurologic status was observed in any of the 4 patients with multiple sclerosis, or the single patient with amyotrophic lateral sclerosis. In one patient there were signs of rapid deterioration during the course of treatment which was not attributed to the drug. No changes were noted in any of the peripheral blood or bone marrow examinations. An additional patient, 29 years old, with multiple sclerosis of one month's duration, was given 1050 μ g of crystalline vit. B₁₂ intramuscularly, daily, for 3 weeks. There were no signs of improvement and the medication was discontinued.

Summary. Five patients with multiple sclerosis and one patient with amyotrophic lateral sclerosis failed to respond to massive daily intramuscular injections of crystalline vit. B₁₂.

* Crystalline vit. B₁₂ was supplied by Lederle Laboratories, American Cyanamid Co., Pearl River, N. Y.

1. Berk, L., Denny-Brown, D., Finland, M., Castle, W. B., *New England J. Med.*, 1948, v239, 328.

2. Bethell, F. H., Meyers, M. C., and Neligh, R. B., *J. Lab. and Clin. Med.*, 1948, v33, 1477.

3. Hall, B. E., and Campbell, D. C., *Proc. Staff Meet., Mayo Clinic*, 1948, v23, 591.

4. Lereboullet, J., Pluvinaige, R., and Coty, R., *J.A.M.A.*, 1950, v143, 1272, Foreign letters.

5. Schumacher, G. A., *J.A.M.A.*, 1950, v143, 1241.