A Case of Upper Motor Neuron Disease

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In September 1977, Mr. PM, age fifty-four, complained he had found walking difficult for two years. At first he noticed his left thumb and forefinger became awkward and he began to limp. His hand slowly became worse and he was no longer able to flex the wrist. He was able to walk very carefully, but not on his toes. He also suffered from a continuous sense of pressure around his neck. A competent neurologist diagnosed "upper motor neuron disease".

Three weeks before I saw him, he had started himself on a moderate multi-vitamin program. As a result he felt less pressure around his neck and he was less tired. He was free of perceptual symptoms, his thought processes were normal and he was not depressed, but he was anxious and tense, and tired easily. I advised him to continue with niacin 100 mg three times per day and to add to this niacinamide 1 gram three times per day, thiamine 500 mg three times per day, Pyridoxine 250 mg per day, sodium ascorbate 1 gram three times per day, liver extract 1 mL intramuscularly twice per week, and to totally eliminate all foods containing added sugar.

Seven months later there was some improvement — he found it easier to walk. I then added Cuprimine 250 mg twice a day and zinc sulfate 220 mg per day. By September 1978 he was walking more normally, but he believed his right wrist was getting weaker. He then reported he had been examined at The National Hospital, Queen Square, London, July 4th to July 13th, 1978. The neurological report stated his history of symptoms had started ten to twelve years earlier. His limp and weakness which had been progressing for a year had been stable for the previous two years. The differential diagnosis suggested was between a dystrophic process and a spinal muscular atrophy confirmed by EMG. He was given a benign prognosis as the neurologist did not think he had upper motor neuron disease. There is no reference in this report about the vitamin treatment he had been on for the year. He then decided to discontinue all the nutrients to determine if they were helping.

Three weeks later he had noted no change, but a friend reported his head had drooped more and his neck muscles were weaker. But pain in his muscles at night, not present while still on the program, had recurred. One month later he was convinced he had relapsed. He then resumed his program.

April 1979 he reported he had again discontinued the whole program for six weeks. Again he gradually became worse. By this time he was convinced that he was better on the multi-vitamin program. I started him on Vitamin E 800 IU per day, increasing it to 1600 IU in July. Walking was significantly better. He could now walk as far as he needed to, whereas before he had to stop after twenty minutes. He also walked without a limp.

January 1980 he developed intolerance to niacin but was able to take niacinamide. He could walk a mile. Now his program included niacinamide 3 grams per day, thiamine 1 1/2 grams, Pyridoxine 250 mg, sodium ascorbate 3 grams and Vitamin E 1600 IU.

I saw him again in August 1988. He had remained the same with only 500 mg per day of niacinamide and thiamine, and 400 IU of Vitamin E. His weight was constant and the strength in his hands was stable. I advised him to add Coenzyme Q_{10}, 30 mg three times per day. Seven weeks later he reported that after three weeks on Q_{10} he was able to climb a mountain and to hike in the mountains without becoming tired. He had also been taking a herbal mineral preparation for one month but had not noted any advantage from this. October 17, 1988, he still retained his new-found ability to walk. He reported he began to improve the first week after starting Co-enzyme

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Q_{10} and that improvement had been more evident since then. For example he could walk eight miles easily, whereas before one mile would leave him tired. He could climb Mount Newton in thirty minutes; before, it took an hour. He had less difficulty holding his head erect; before, it tended to droop, and he suffered much less pain. He still limped and still suffered crampy pain during the night.

Discussion

Coenzyme Q_{10} has been helpful to a small number of patients with muscle disease. Bliznakov and Hunt (1987) provided an excellent review of the current knowledge about Q_{10}. According to their review, small doses are not helpful. Dr. K. Folkers and his associates using larger dosages found very significant improvement in a few. The vitamin concept of nutrients has preoccupied scientists with using small doses, even with substances with hardly any toxicity, when it would be more appropriate to do adequate dose-response trials.

Folkers, Wolaniuk, Simonsen, Morishita and Vadhanavikit (1985) did a double blind controlled study on twelve patients with muscle disease. They gave them 33 mg of Q_{10} three times per day for three months measuring cardiac output and stroke volume. Using these measures they correctly assigned patients to either Q_{10} or placebo ($P < .003$).

Patients with muscle disease also have cardiac problems. Four of the eight given Q_{10} were improved by this enzyme. One with Becker dystrophy was able to increase physical exercise from 30 minutes to 45. A second with Duchenne dystrophy fell less frequently. A third with Charcot-Marie-Tooth disorder could walk further, became free of leg pain and was better able to control leg function. The last with the same disease was more energetic and less tired.

Before this study, Folkers and associates had seen a transient response in two patients with limb girdle dystrophy and a major improvement in a third patient — on Q_{10} for six years he did not have the deterioration expected.

My patient, in contrast to these earlier patients, received a more comprehensive program of treatment. This treatment had stabilized him. On several occasions he had stopped the program and in each case he began to relapse, and went back onto his vitamins. However, there was no major improvement. This came very soon after he started Q_{10}. He increased his walks from one to eight miles, was able to hike and mountain-climb with much less fatigue. He reduced the time required to climb one mountain from 60 minutes to 30. Finally, his back muscles became stronger so he was able to hold his head up better. He was, of course, very encouraged.

For this patient a comprehensive Orthomolecular program including Coenzyme Q_{10} not only prevented major deterioration but initiated a recovery. It may be argued he did not really have a deteriorating muscle disease based upon the diagnosis in England. But the neurologist must have concluded this because he had not deteriorated, and had ignored the fact he was on treatment with nutrients. When a disease for which there is no treatment responds to a strange treatment (nutrition and vitamins), it is simpler to change the diagnosis rather than to examine the hypothesis that the treatment might be helpful for some. The neurologist did not know that every time the patient stopped the program, he relapsed.

Even one response of a patient with a disease for which there is no treatment is significant. The next step is to determine whether other patients with muscle disease will respond.

Literature Cited

1. Bliznakov EG and Hunt GL: *The Miracle Nutrient Coenzyme Q_{10}.* Bantam Books, New York, 1987.
2. Folkers K, Wolaniuk J, Simonsen, R, Morishita M and Vadhanavikit S: Biochemical rationale and the cardiac response of patients with muscle disease with coenzyme Q_{10}. *Proc. Natl. Acad. Sci. USA,* 82: 4513-4516, July 1985.