Ascorbic Acid Metabolism in a Population of Adolescent Psychiatric Patients

George von Hilsheimer, William Philpott, P. N. Milner, and T. Tucker

From November 1971 through February 1972 the laboratory at Green Valley School ran 88 individual samples of urine through the VanderKamp method to determine the presence of free ascorbic acid. These tests were used to titrate supplements of ascorbic acid. The patients were receiving from 1 to 12 g of ascorbic acid four times a day in capsule form. This period was also used to standardize methods, run samples consisting of standard amounts of ascorbic acid, and split samples. All samples were run blind.

During three days in March, 1972, 25 samples were taken from staff members of which 19 were positive and six negative. Seventy-six percent of this control group demonstrated the presence of free ascorbic acid in the urine.

At the same time 91 samples were taken from patients receiving from four to 48 g of ascorbic acid supplement in daily divided doses. Thirty-one, or 34.1 percent, were positive and 60 negative. This difference is significant at the .001 level of confidence. The difference becomes even more compelling when it is noted that the control group were not receiving large supplements.

Four months later the patient population, receiving supplements at the same level, was again sampled and of 99 assays 20 were positive.

Using this data a concerted effort was made to guarantee that the patients were in fact ingesting the level of supplements suggested by negative tests after long loading with high doses of ascorbic acid. One hundred and twenty-three samples were taken, and 56.1 percent were positive.

This population was surveyed again in October, and of 97 assays, 24.7 percent were positive; of 88 in December, 37 percent positive; 71 in January, 25.3 percent; 66 in February, 34.3 percent; 62 in March, 30.6 percent. During these six months supplements were delivered to the patients, but no heroic measures were taken to insure ingestion. The nurse or aide was instructed to observe the patient swallowing the capsules.

During the period 1 March 1972 through December 1973, 149 new patients were admitted to Green Valley. On the day of admission a urine sample was taken as part of intake procedure. There were no positive VanderKamp reactions in 149 sequential admissions in the 22 months. This compares to 66.6

Address correspondence regarding this paper to George von Hilsheimer, Growth Institutes, Inc., Twymans Mill Star Route 5, Box 345, Madison, Virginia 22727.

percent of a sample of individuals encountered accidentally.

This population, receiving an average of 9 g of ascorbic acid daily, was monitored regularly with the SMA-12 profile on the AutoAnalyzer. No dysfunction attributable to high intake of ascorbic acid was noted.

Moreover, records on 18 staff members consuming from 6 to 18 g of ascorbic acid daily for periods ranging from one to eight years have revealed no disease or dysfunction in the group not diagnosed prior to the routine's inception.

Discussion

Discussions of the need for ascorbic acid supplementation commonly claim that ingestion of amounts greater than 30 to 100 mg per day will be wasted in the urine. Citations of research supporting this claim cannot be found.

This study demonstrates an unusually high tolerance for ascorbic acid as weighed against commonly recommended doses. The psychiatric patient is under high stress and obviously requires very large doses of ascorbic acid. The long-term supplementation of ascorbic acid is apparently a very low rrsk regimen.

Publishing Policies

The Academy of Orthomolecular Psychiatry

The Journal of Orthomolecular Psychiatry is an educational journal published quarterly by the Academy of Orthomolecular Psychiatry as a service to the public. Certain classes of memberships to the Canadian Schizophrenia Foundation and the Huxley Institute for Biosocial Research include subscriptions to the Journal and a quarterly Newsletter. To become a member, write to the Canadian Schizophrenia Foundation, 2135 Albert Street, Regina, Saskatchewan, Canada, S4P 2V1, or to the Huxley Institute, 1114 First Avenue, New York, N.Y. 10021. Membership contributions are income tax deductible. Members of the Academy will receive the Journal.

Annual subscription rate for the Journal of Orthomolecular Psychiatry to non-members is $20, and to libraries $30.

The Journal, its editors, and the publishers do not take responsibility for opinions expressed by the authors. The Journal board and editors do not necessarily agree with all the articles that are published.

Send correspondence relating to published issues and annual subscription orders to the Canadian Schizophrenia Foundation, 2135 Albert Street, Regina, Saskatchewan, Canada S4P 2V1.