Vitamin D and Its Correlation to Cognitive Health

Researchers have found a link between vitamin D deficiency and cognitive decline, which was discovered in two independent cross-sectional studies. A third study did not indicate any significant correlation between vitamin D deficiency and cognitive decline.

First Study
- 318 elderly patients with dementia and cerebrovascular changes (determined by MRI) showed that 14.5% had a deficiency in vitamin D (levels less than 10ng/mL) and 44.3% were insufficient in vitamin D (levels between 10 ng/mL and 20 ng/mL).
- When other variables were controlled, low vitamin D levels were associated with twice the odds of all-cause dementia.
- Low vitamin D deficiency was associated with increased white matter hyperintensity volume and large vessel infarcts.

Second Study
- In the second cross-sectional study, researchers found that women with levels of 25 (OH))D levels less than 10ng/mL (n=129) had a lower mean Pfeiffer Short Portable Mental State Questionnaire and a score of less than 8, which is the cutoff value for normal functioning.

Third Study
- In the longitudinal study, there were 1,604 elderly men followed for about 4.6 years.
- Levels of 25(OH)D were measured and their cognitive functions were assessed using the Modified Mini-Mental State Examinations and other tests.
- No significant correlations were found between lowered 25(OH)D and cognitive impairment.

Joshua Miller, Ph.D., from the University of California-Davis Medical Center in Sacramento commented that the three studies confirm that deficiency in vitamin D supplement is apparent in older adults. Some of his recommendations include:
- Older patients should be educated on proper supplementation of vitamin D if there is a deficiency.
- Additional clinical trials designed to study the correlation between vitamin D deficiency and cognitive functions are needed.
- Patients can be recommended 400 IU of vitamins D for those 51-70 years and 600 IU for patients 70 years and older.
- The maximum daily intake of vitamin D is 2,000 IU.

Until further studies are examined, a definite cause-and-effect relation between vitamin D deficiency and dementia cannot be determined. Patients should be recommended to have an adequate intake of vitamin D in order to prevent other diseases.

Sources: