

# Clinical Update

## Vitamin B Deficiency a Danger After Gastric Bypass Surgery

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Vitamin B1 deficiency should be carefully considered after gastric bypass surgery for obesity. (review by Dr. Rashmi Yadav) The neurological complications following gastric bypass surgery are diverse. Vitamin B1 deficiency and Wernicke encephalopathy should be carefully considered in surgically treated obese patients."

By American Academy of Neurology, A deficiency in vitamin B1 can be a serious complication following a popular surgery to treat obesity, according to a case study published in the December 27, 2005 issue of *Neurology*, the scientific Journal of the American Academy of Neurology. If untreated, vitamin B1 deficiency can lead to Wernicke encephalopathy, a severe neurological condition.

In the study, a 35-year-old woman developed many difficulties after gastric bypass (bariatric) surgery for obesity. Difficulties included nausea, anorexia, fatigue, hearing loss, forgetfulness, and ataxia, or an inability to coordinate muscle movements. By the 12th week following surgery, she had lost 40 pounds and had difficulty walking and concentrating.

"This case highlights the variability of Wernicke encephalopathy where the classic trio of eye movement abnormalities, confusion, and ataxia are seen in less than 20 percent of patients," said Heidi Schwarz, MD, who wrote a related commentary. "It is unusual because the patient also had hearing loss."

An MRI scan showed abnormal signals in various parts of the woman's brain, indicating a deficiency in vitamin B1. Also known as thiamine, vitamin B1 is essential for carbohydrate metabolism and normal functioning of the nervous system. When her intravenous dose of vitamin B1 was increased to 100 mg every eight hours, her eye muscles gradually returned to normal and her confusion decreased.

Eleven days after her dose of vitamin B1 was increased, a follow-up MRI scan showed the abnormal signals had decreased. The scan also indicated spots in the premotor and motor regions due to hemorrhaging, which is another sign of Wernicke encephalopathy.

"The neurological complications following gastric bypass surgery are diverse," said co-author Raul N. Mandler, MD, a Fellow of the American Academy of Neurology and neurologist at The George Washington University in Washington, D.C. "Vitamin B1 deficiency and Wernicke encephalopathy should be carefully considered in surgically treated obese patients."