

Abstract

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Copper deficiency after gastric surgery: a reason for caution.

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BACKGROUND: Acquired copper deficiency in adults leads to hematological and neurological manifestations that mimic vitamin B12 deficiency. A significant number of patients with copper deficiency syndrome have a history of gastric surgery, often remote. We sought to determine whether copper deficiency is present in a population of individuals with longstanding partial gastric resection.

METHODS: Serum copper, ceruloplasmin, and zinc levels were determined in 20 patients with a history of partial gastric resection and 50 controls, randomly selected from the Oklahoma City Veterans Affairs Medical Center electronic database.

RESULTS: Hypocupremia and symptoms of copper deficiency were detected in patients with partial gastric resection in contrast to controls (3/20 versus 0/50, $P = 0.02$). Serum copper and ceruloplasmin levels were significantly lower in individuals with partial gastric resection than in controls ($P = 0.04$ and $P = 0.001$, respectively). The mean interval between gastric surgery and testing was 20.7 years.

CONCLUSIONS: Our results indicate that a significant number of individuals with longstanding history of partial gastric resection have undiagnosed hypocupremia. Screening for copper deficiency after gastric surgery may prevent the development of hematological and neurological complications in these patients.

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