

Occult Hyperparathyroidism in Body Contouring Patients After Bariatric Surgery: A Plastic Surgeon's Role

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Massive weight loss after bariatric surgery leaves patients with excessive skin, and body contouring surgery by plastic surgeons is increasingly recognized as essential for improving quality of life and helping maintain weight loss. Weight loss in bariatric surgery is achieved through alterations in the gastrointestinal anatomy, restricting food intake and limiting absorptive capacity for nutrients such as calcium and vitamin D. Roux-en-Y gastric bypass diverts nutrients past portions of the small intestine, limiting the absorptive area for not only calcium but also for fat-soluble vitamin D. Many patients require lifelong supplementation of calcium and vitamin D. Although plastic surgeons are aware of the nutritional deficits in postbariatric body contouring patients, derangements in calcium metabolism are not routinely investigated. Parathyroid hormone (PTH) is chiefly responsible for maintaining calcium homeostasis. Decreasing serum calcium levels stimulate increased PTH secretion and vitamin D activation. Vitamin D facilitates absorption of calcium in the intestine to normalize levels.¹ A review of the plastic surgery literature reveals no guidelines for assessing PTH levels, especially if routine labs indicate a normal serum calcium level.²⁻⁴

The senior author began collecting preoperative PTH levels in all bariatric surgery patients in 2019 over concern for occult secondary hyperparathyroidism. This practice has since revealed a surprising incidence of occult hyperparathyroidism, with 6 out of 19 patients (31.6%) demonstrating hyperparathyroidism. PTH values ranged as high as 238 pg/mL, over 3 times the upper limit of normal. No patients were found to have low calcium levels, suggesting compensatory bone resorption was occurring.

Persistently elevated PTH levels risk the development of osteoporosis and parathyroid hyperplasia. Patients may suffer unexplained fatigue, psychological disturbances, myalgias, and arthralgias.⁵

Two patients highlight why we believe plastic surgeons should routinely screen postbariatric body contouring patients for hyperparathyroidism. The first presented with unexplained hypercalcemia on preoperative evaluation. They were referred for surgical clearance with the recommendation for PTH testing. Clearance was obtained with no further testing performed and the patient underwent body contouring surgery. After an uneventful postoperative course, the patient reported psychological disturbances and severe anxiety to their personal physician. PTH testing revealed a value twice the upper limit of normal, leading to a hemithyroidectomy to resect the severely hyperplastic adjacent parathyroid gland. For years the patient had reportedly suffered from poor dentition attributable to bone loss, requiring extensive and costly procedures. Another patient found to have hyperparathyroidism complained of debilitating psychological disturbances requiring anxiolytic

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and antidepressant medications, stating they felt like they were “losing their mind.” In our practice, all patients with hyperparathyroidism are referred to their primary care physician for treatment prior to body contouring surgery.

Elevated parathyroid levels alone are not known to significantly influence body contouring surgical outcomes; however, in bariatric surgery patients, plastic surgeons have a unique opportunity to increase the detection of unmanaged hyperparathyroidism. As such, we recommend routine testing of PTH levels in postbariatric surgery patients undergoing body contouring and subsequent treatment if PTH levels are abnormal. This routine screening can help diagnosis and ultimately treat this commonly overlooked disease in the postbariatric surgery population.

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