

IMAGES IN CLINICAL MEDICINE

Chvostek's and Trousseau's Signs



A 38-YEAR-OLD MAN PRESENTED TO THE EMERGENCY DEPARTMENT WITH facial paresthesias and upper-extremity muscle cramping. His symptoms were progressive, beginning as mild paresthesias on postoperative day 1; by the time he presented, they had been getting worse for about 24 hours. His medical history was noteworthy only for papillary thyroid carcinoma, for which he had undergone a total thyroidectomy 2 days earlier. Physical examination revealed apparent Chvostek's sign (Fig. 1A and Video 1) and Trousseau's sign (Fig. 1B and Video 2), a result of postsurgical acquired hypoparathyroidism. His total calcium level was 5.8 mg per deciliter (normal range, 8.4 to 10.3) (2.9 mmol per liter [4.2 to 5.2]), his free calcium level was 1.68 mEq per liter (normal range, 2.24 to 2.64) (0.84 mmol per liter [1.12 to 1.32]), and his serum phosphate level was 6.6 mg per deciliter (normal range, 2.7 to 4.5) (2.13 mmol per liter [0.87 to 1.45]). The parathyroid hormone level was 7 pg per milliliter (normal range, 15 to 65). Chvostek's sign is described as the twitching of facial muscles in response to tapping over the area of the facial nerve (Video 1). Trousseau's sign is carpedal spasm that results from ischemia, such as that induced by pressure applied to the upper arm from an inflated sphygmomanometer cuff (Video 2). Chvostek's sign is neither sensitive nor specific for hypocalcemia, since it is absent in about one third of patients with hypocalcemia and is present in approximately 10% of persons with normal calcium levels. Trousseau's sign, however, is more sensitive and specific; it is present in 94% of patients with hypocalcemia and in only 1% of persons with normal calcium levels. Our patient's symptoms resolved with intravenous administration of calcium gluconate, and he was discharged with instructions to begin oral calcium supplementation and to maintain close follow-up with his endocrinologist.

DOI: 10.1056/NEJMicm1110569

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