**Title**

**Hypercalcemic crisis due to a giant intrathyroidal parathyroid adenoma, with postsurgical severe hypocalcemia and hungry bone syndrome: A Case Report**

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**Abstract** (258 words)

**Background:** Parathyroid adenoma is the most common cause of hypercalcemia and can rarely lead to hypercalcemic crisis; an unusualendocrine emergency which requires timely surgical excision.

**Case presentation:** A 67 years old male patient attended the Euroclinic hospital, Athens, Greece, because of elevated calcium levels and a palpable right sided neck mass, accompanied by symptoms of nausea, drowsiness and weakness for six months, increased prior to our evaluation. The initial laboratory investigation identified severely elevated serum calcium (14.4 mg/dl) consistent with hypercalcemic crisis (HC) and parathyroid hormone PTH (476 pg/ml) due to primary hyperparathyroidism. Neck ultrasonography (USG) identified a large, well-shaped, cystic mass in the lower half of the right thyroid lobe. With a serum calcium concentration of 19.5 mg/dl and a PTH of 2500 pg/ml, the patient underwent partial parathyroidectomy and total thyroidectomy, which decreased serum calcium and PTH to 10.0 mg/dl and 19.3 pg/ml respectively. Histology revealed a giant intrathyroidal cystic parathyroid adenoma, which was blamed for the hypercalcemic crisis. Post-operatively the patient developed severe biochemical and clinical hypocalcemia with calcium concentration as low as 6.6 mg/dl consistent with hungry bone syndrome (HBS) which were treated medically with high doses of intravenous calcium gluconate and oral alfacalcidol with slow recovery of serum calcium. After discharge, parathyroid function recovered, and symptomatology resolved entirely, in more than one month.

**Discussion/conclusion:** We present a case involving an exceptionally large intrathyroidal parathyroid adenoma, characterized by clinical manifestations that mimicked malignancy. Identification and treatment of such tumors is challenging and requires careful preoperative evaluation and postoperative care for the risk of hungry bone syndrome.