Parathyroid Crisis Caused by a Large Parathyroid Adenoma

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A 68-year-old man was admitted to the emergency department with a drowsy mental status and palpable mass in the neck. The laboratory data were as follows: blood urea nitrogen, 49.3 mg/dL; serum creatinine, 2.7 mg/dL; sodium, 141 mEq/L; potassium, 4.9 mEq/L; chloride, 108 mEq/L; total calcium, 21.9 mg/dL; inorganic phosphorus, 4.7 mg/dL; uric acid, 9.4 mg/dL; and intact parathyroid hormone (PTH), 2,530 pg/mL. Ultrasonography showed an approximately 4.5x7.0 cm-sized hypoechogenic cystic lesion on the right side of the neck (Picture 1A). The lesion was appeared to be

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a heterogeneous enhancing mass with internal cystic portions on contrast-enhanced computed tomography (CT) of the neck (Picture 1B). To evaluate the patient for multiple endocrine neoplasia (MEN) syndrome, we additionally performed contrast-enhanced CT of the chest and abdomen as well as brain magnetic resonance imaging with angiography, all of which showed no abnormal lesions. The patient did not present with any clinical signs or symptoms of MEN syndrome. The patient was treated with intravenous fluid replacement with furosemide. His mental status and hypercalcaemia were not improved by these treatments; hence, he underwent continuous renal replacement therapy in the intensive care unit. Surgical excision of the mass lesion was performed. The histopathology revealed that the tumor cells had a trabecular and acinar growth pattern with eosinophilic and vacuolated cytoplasm (Picture 2A) and strong immunoreactivity for PTH (Picture 2B). These pathologic findings were consistent with those of parathyroid adenoma. Parathyroid adenoma is the leading cause of primary hyperparathyroidism (1). Parathyroid crisis is a rare and life-threatening complication of primary hyperparathyroidism, and making an early diagnosis is required due to the high mortality of the condition (2).

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References


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