

Papillary Thyroid Carcinoma Associated with Parathyroid Adenoma

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Abstract- Concomitant papillary thyroid cancer and parathyroid adenoma is rare. We report a 55 years old female with papillary cancer admitted for surgery. Preoperative laboratory findings revealed hypercalcemia and then primary hyperparathyroidism. Thyroidectomy, neck dissection and excision of parathyroid adenoma were performed. Histological examination revealed parathyroid adenoma. Serum calcium returned to normal range after surgery. We recommend preoperative check of calcium in patients with thyroid cancer.

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Keywords: Papillary thyroid cancer; Parathyroid adenoma; Thyroidectomy

Introduction

There have been sporadic reports of the coexistence of hyperparathyroidism and non-medullary thyroid carcinoma (1-5). This association is rare. Parathyroid adenoma is clinically recognized in patients presenting with either hypercalcemia or it may be a part of multiple endocrine neoplasia (MEN). In such cases, hypercalcemia is a virtually inevitable laboratory finding and therefore, is an important laboratory finding in the diagnosis of hyperparathyroidism. We have recently encountered a case of non-medullary thyroid carcinoma (papillary carcinoma) associated with parathyroid adenoma

Case Report

A 55 years old woman with a prominent nodule of right thyroid lobe was referred to surgical clinic. Thyroid function tests were normal. She had a history of hypertension that was under control with atenolol (100 mg/day). She had also a history of bilateral nephrolithiasis and twice lithotripsy. Irradiation and familial history were negative. Fine needle aspiration (FNA) from prominent nodule was performed and revealed papillary thyroid carcinoma. Preoperative biochemical profile was performed and revealed increased serum calcium (12 mg/dl) and parathyroid hormone levels (450 pg/ml), and a decrease in serum phosphorus level (2.1 mg/dl). Cervical ultrasound showed a prominent nodule of right thyroid lobe, two

lymph nodes anterior to right carotid sheath and a 1x1.5 cm nodule just superolateral to left thyroid lobe suspicious to parathyroid adenoma. The patient underwent total thyroidectomy, right modified radical neck dissection and excision of left suspicious nodule. Other parathyroid glands were normal and saved. Frozen section of suspicious nodule showed parathyroid adenoma. Permanent pathology also documented the same pathology. Patient was discharged three days after surgery. Calcium, phosphorus, and parathyroid hormone levels were normalized after surgical intervention.

Discussion

Synchronous medullary thyroid cancer and primary hyperparathyroidism (PHP) is common in MEN-2A (Sipple syndrome) (1). In contrast, concomitant non-medullary thyroid cancer and PHP is very rare (1-2%) (2,3). Based on the findings reported in published studies, the coexistence of non-medullary thyroid cancer is found in 2.4% to 3.7% of the patients operated on for PHP. Katz and Kong (6) reported preclinical hyperparathyroidism in 36 of 800 patients who were operated for thyroid abnormalities. The coexistence of non-medullary thyroid cancer and preclinical hyperparathyroidism was found in 9 of 36 patients. Previous neck irradiation and positive familial history are two risk factors for both thyroid cancers and parathyroid adenoma (7-9), although some investigators could not prove this association (10,11). However, such history was absent in this case. Preoperative diagnosis of

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this association is very important and could be easily performed by serum calcium measurement. Therefore we recommend preoperative check of calcium in all patients with thyroid cancer. Most authors do not advise preoperative non-invasive localization of hyperfunctioning parathyroid tissue in patients with PHP who are undergoing initial and classic neck exploration (4,5) but advise in candidates for limited neck exploration. This case was not candidate for such limited surgery. Therefore these tests were not performed.

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