

COEXISTING INTRATHYROIDAL PARATHYROID ADENOMA AND MICROPAPILLARY CARCINOMA OF THE THYROID

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Parathyroid glands are occasionally found in an ectopic location. The vast majority of ectopic parathyroid glands are found within the thymus, in the anterior mediastinum, followed by the posterior mediastinum, thyroid and, rarely, the carotid sheath. Other rare sites of ectopy include the pericardium, vagus nerve or the soft tissue adjacent to the angle of the jaw. Parathyroid adenomas can occur in any site containing ectopic parathyroid tissue. Ectopic parathyroid adenomas may also be the cause of primary hyperparathyroidism. The concomitant existence of intrathyroidal parathyroid adenoma and papillary carcinoma of the thyroid is exceedingly rare. Here we report a case of intrathyroidal parathyroid adenoma associated with a synchronous micropapillary carcinoma in a 76-year-old female patient.

Key Words: Intrathyroidal Parathyroid Adenoma, Micropapillary Carcinoma.

TİROİD PAPİLLER KARSİNOMU İLE BİRLİKTE GÖRÜLEN BİR İNTRATİROİDAL PARATİROİD ADENOMU

Paratiroidler nadiren ektopik lokalizasyonlarda bulunabilir. Ektopik yerleşimli paratiroidlerin büyük çoğunluğu ön mediastende timus içerisinde, arka mediastende, tiroid içerisinde ve nadiren de karotis kılıfında bulunurlar. Diğer ektopik paratiroid görülen yerler perikard, vagus siniri ve mandibula köşesindeki yumuşak dokudur. Paratiroid adenomları ektopik yerleşimli bezlerden de gelişebilir. Bu ektopik yerleşimli paratiroid adenomları primer hiperparatiroidizme de neden olabilir. İntratiroidal paratiroid adenomu ile birlikte tiroid papiller karsinomu görülmesi oldukça nadir bir durumdur. Bu makalede 76 yaşındaki bir kadın hastada mikropapiller tiroid kanseri ile senkron görülen bir intratiroidal paratiroid adenomu olgusu sunulmaktadır.

Anahtar Kelimeler: İntratiroidal Paratiroid Adenomu, Tiroid Mikropapiller Karsinom.

Ectopic parathyroid adenomas, as well as hyperplasia or adenoma of the parathyroid glands, can cause primary hyperparathyroidism. The incidence of ectopic parathyroid adenomas ranges from 10% to 36% in recent publications (1-3), the most common sites being the mediastinum in or closely related to the thymus (20%), the posterior mediastinum (5-10%), the thyroid gland (5%) and the carotid sheath (1%) (4). The association of primary hyperparathyroidism and thyroid malignancy has also been firmly documented (5,6). We report a case of ectopic parathyroid adenoma in the thyroid gland, associated with a synchronous carcinoma of the thyroid.

CASE REPORT

A 76-year-old female patient, receiving treatment for hypertension and type II diabetes, presented with pain in her extremities and fatigue. In the routine laboratory examination, her plasma calcium and parathormone levels were elevated. A cervical radionuclide scan with ^{99m}Tc pertechnetate revealed a hyperactive nodule in the right thyroid and a hypoactive nodule in the left thyroid lobe. The hypoactive nodule in the left thyroid lobe showed retention of ^{99m}Tc-SestaMIBI, suggestive of a parathyroid adenoma or hyperplasia. A left total and right subtotal thyroidectomy, along with excision of two parathyroid glands, was performed.

On macroscopic examination, the thyroid gland measured 5.5 x 5.5 x 2 cm and weighed 31 g. The right lobe was 3.5 x 2 x 1.5 cm, and the left lobe was 3.5 x 1.9 x 1.5 cm. In the right thyroid lobe, a light gray-tan colored irregular solid nodule measuring 0.8 cm in diameter was observed. Serial sections also revealed a cream-colored solid nodule with irregular borders, measuring 1.2 cm, in the left thyroid lobe.

Microscopically, the lesion observed in the left thyroid lobe consisted of a well-circumscribed neoplasm (Fig. A). The neoplasm was composed of uniform cells with vacuolated or lightly eosinophilic cytoplasm, containing nuclei with dense chromatin and occasional nucleoli (Fig. B). A diagnosis of parathyroid adenoma was made. An additional focus of non-neoplastic parathyroid tissue was observed in the left thyroid lobe (Fig. C). Concomitantly, a micropapillary carcinoma of the thyroid, measuring 0.8 cm in diameter, was identified in the right thyroid lobe (Fig. D). Further sections also revealed a microscopic focus of thyroid carcinoma, smaller than 0.1 cm, in the left thyroid lobe. The excised parathyroid glands were normal.

Following surgery, the plasma calcium and parathormone concentrations declined to normal levels.

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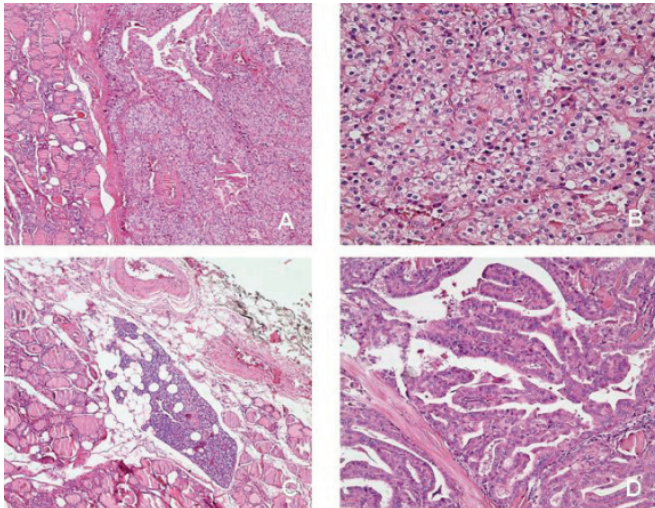


Figure 1: Intrathyroidal parathyroid adenoma (A) (H&E, X100). Cytoplasmic and nuclear characteristics of neoplastic cells (B) (H&E, X200). Normal parathyroid tissue observed in the left thyroid lobe (C) (H&E, X100). Focus of micropapillary carcinoma in the right thyroid lobe (D) (H&E, X200).

DISCUSSION

The ectopic presentation of parathyroid tissue is by no means rare, and has been known to cause difficulties in pre- and intraoperative localization. Rodriguez et al. discovered as much as 66% of parathyroid adenomas to be ectopic in patients with recurrent or persistent hyperparathyroidism (7). The incidence of ectopic parathyroid adenomas range from 10% to 36% in recent publications (1-3). The mediastinum, especially the thymus, is a common location for ectopic parathyroid adenomas (20%), while intrathyroidal localization is somewhat rare (4). Proye et al., in their review of 1200 patients from 1965 to 1992, discovered only 47 intrathyroidal parathyroid glands (3.6%) (8). Likewise, Feliciano found 4 of 97 parathyroid adenomas to be intrathyroidally located and de la Cruz Vigo et al. discovered just 6 patients with pathological intrathyroidal glands in their review of patients from 1974 to 1993 (9,10).

Our patient presented with symptoms of hyperparathyroidism and a hyperactive nodule in the right thyroid lobe and a hypoactive nodule in the left thyroid lobe was visualized using ^{99m}Tc pertechnetate scintigraphy. Retention of ^{99m}Tc-SestaMIBI was observed in the hypoactive nodule, suggesting a parathyroid adenoma. Histological sections revealed the hypoactive nodule in the left thyroid lobe to be a parathyroid adenoma and the hyperactive nodule observed in the right thyroid lobe was consistent with a micropapillary carcinoma of the thyroid.

The high incidence rate of thyroid neoplasms in patients with hyperparathyroidism has been well documented. In the review by Krause et al., of the 322 patients who were operated on for primary hyperparathyroidism, 9 also had coexisting thyroid neoplasms (3%) (5). Kosem et al. discovered 9 cases of papillary thyroid cancer (17.6%) among 51 patients who had undergone neck exploration for primary

hyperparathyroidism (6). The synchronous existence of intrathyroidal ectopic parathyroid adenomas and papillary carcinoma of the thyroid is indeed rare. To date, very few cases have been reported in the literature (11,12).

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