—Photogravure—

Intrathyroidal Epithelial Thymoma: Carcinoma Showing Thymus-like Differentiation Mimicking Squamous Cell Carcinoma of the Thyroid

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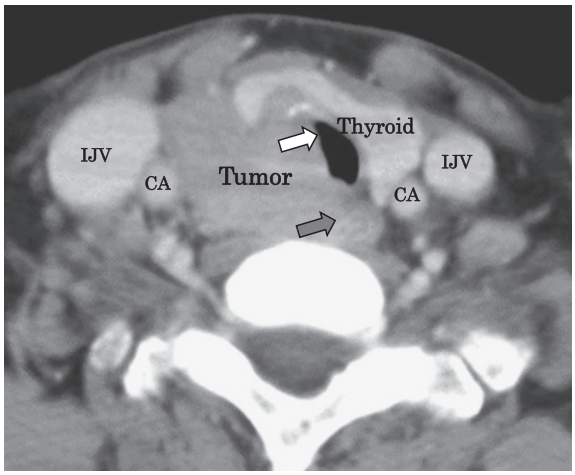

Fig. 1

Carcinoma of possible thymic epithelial origin may occur within the thyroid gland and was first reported by Miyauchi et al.[1] as intrathyroidal epithelial thymoma (ITET) in 1981. Ten years later, Chan and Rosai called this neoplasm carcinoma showing thymus-like differentiation (CASTLE) and described its clinical and pathological features[2]. ITET/CASTLE is a rare malignant tumor having histopathological features similar to those of squamous cell carcinoma (SCC) of the thyroid. Primary SCC of the thyroid usually has a dismal prognosis comparable to that of anaplastic thyroid carcinoma (ATC); however, the prognosis of ITET/CASTLE is more favorable. Curative resection followed by radiation therapy may effectively prevent locoregional recurrence[3]. Immunohistochemical staining with CD5, a marker of carcinoma of thymic origin, is helpful for diagnosing ITET/CASTLE[4]. We report a case of ITET/CASTLE mimicking ATC with a SCC component.

A 63-year-old woman with a 6-month history of dyspnea was found to have a mass of the right side of the neck. Cross-sectional imaging showed a 5-cm right thyroid tumor that had invaded the trachea and esophagus (**Fig. 1**). Metastasis to the lymph nodes or lungs was not clinically evident. The findings of fine-needle aspiration biopsy were suggestive of ATC. Subsequently, the patient underwent total pharyngolaryngectomy, near-total thyroidectomy with bilateral neck dissection, and reconstruction of the cervical esophagus with a free jejunum flap. After surgery, she was treated with chemoradiotherapy (40 Gy external radiation combined with doxorubicin, cisplatin, and fluorouracil). The postoperative histological diagnosis was ATC with a squamous-cell component; however, she survived 10 years after treatment without recurrence. Re-evaluation of the histologic diagnosis with immunostaining for CD5 revealed the actual diagnosis to be ITET/CASTLE (**Fig. 2**).

Conflict of Interest: The authors declare no conflict of interest.

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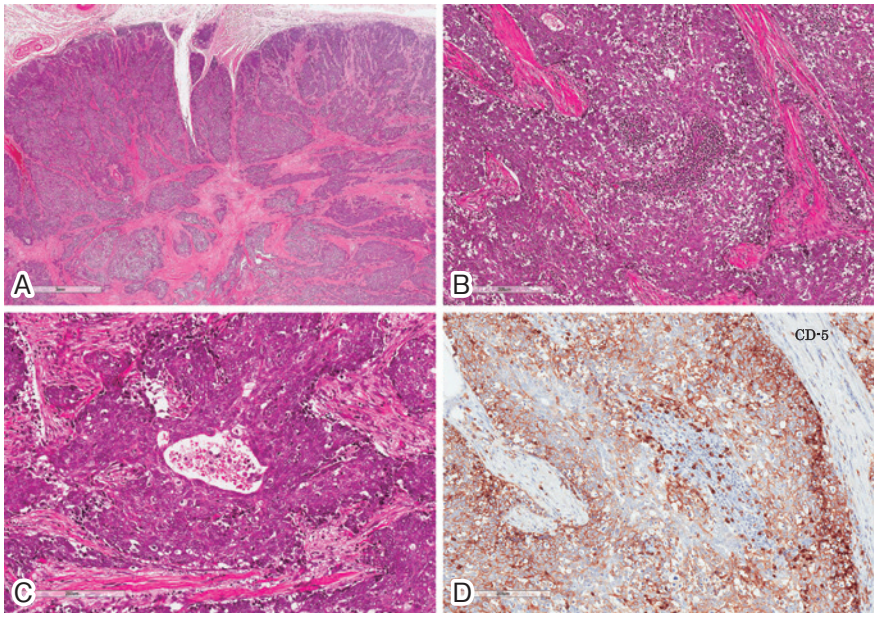

Fig. 2

Fig. 1 Enhanced computed tomography scan of the neck showed a right-sided thyroid mass (tumor) that had invaded the trachea (**white arrow**) and the esophagus (**gray arrow**).
Tumor: thyroid tumor invading of the trachea and esophagus. CA: carotid artery. IJV: internal jugular vein.

Fig. 2 Histopathological findings of CASTLE
(A) Tumor showed solid, lobulated, and expanding growth with fibrous stroma and lymphoplasmacytic infiltration. (Bar=3 mm, original magnification ×1.25)
(B) Tumor cells were round to short and spindle-shaped with basophilic cytoplasm. The nuclei were round to oval and hyperchromatic with inconspicuous nucleoli. Scattered pyknotic change was also noted. (Bar=0.2 mm, original magnification ×20)
(C) The presence of central degeneration within the tumor is reminiscent of squamous cell carcinoma. (Bar=0.2 mm, original magnification ×20)
(D) On immunohistochemical examination, tumor cells were positive for cytokeratin AE1/3 and CD5 but negative for thyroglobulin and TTF1. Immunoreactivity for CD5 was also detected in infiltrating T lymphocytes. (Bar=0.2 mm, original magnification ×20)

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