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Simultaneous metastases of papillary thyroid carcinoma and oral squamous cell carcinoma in the cervical lymph nodes of neck dissection specimens

KEYWORDS
Lymph node metastasis;
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Papillary thyroid carcinoma

Papillary thyroid carcinoma (PTC) is the most common thyroid cancer.[1] Occult PTC in up to 10% of the general population has been reported.[2,3] Metastases were present in about 10% of patients with PTC at the initial diagnosis.[1] Synchronous occurrence of two primary malignancies of different origins in head and neck region is infrequent. The incidence of thyroid carcinomas found in patients with primary oral squamous cell carcinoma (OSCC) during neck dissection is about 0.3%–7.5%.[3,4] About 49 cases of coexistent head and neck SCC (HNSCC) and PTC have been described in the literature.[2] Patients with concurrent metastases in cervical lymph nodes from HNSCC and PTC are even rare. Less than 10 cases were reported.[4,5] Hereby, a case of simultaneous metastases of PTC and OSCC in cervical lymph nodes during neck dissection was presented.

A 54-year-old male visited the Division of Oral and Maxillofacial Surgery of our institution for an exophytic mass over the right cheek for several months. The patient had hypertension under treatment and a history of alcohol drinking, betel-quid chewing and cigarette smoking. Intraoral examination demonstrated a mass measuring about 2 cm in diameter with an ulcerated surface and sessile base at the right buccal mucosa. Pain and induration were noted. Extra-oral examination revealed a swelling in the right submandibular region. Incisional biopsy of the oral mass showed a well-differentiated SCC. Computed tomography (CT) found enlarged lymph nodules in the right neck level IB, IIA and IIB, and a calcified nodule at the right lobe of thyroid gland. Therefore, metastatic lymphadenopathy from the right buccal SCC was considered. Wide excision and selective neck dissection from level I to IV were performed. Histopathologic examination exhibited a well-differentiated SCC with free margins of the right buccal tumor. Metastatic SCC was found in two (level I & IIB) out of fifty-eight resected lymph nodes, with tumor nests composed by dysplastic squamous epithelial cells with mild atypia and keratin pearl formation (Fig. 1A and B). Three lymph nodes in level IIA and III demonstrated papillary and follicular structures consisting of cuboid cells with nuclear features including enlarged nuclei with irregular size and shape, dispersed to clear-appearing nuclear chromatin, nuclear crowding and overlapping, nuclear groove and pseudoinclusions (Fig. 1C and D). Immunohistochemical examinations revealed positive reactions for CK7, CK19, galectin-3, Hector Battifora mesothelial-1 (HBME-1), thyroglobulin, and thyroid transcription factor-1 (TTF-1) (Fig. 1E-L). Metastatic PTC was considered. Subsequently, total thyroidectomy was performed and PTC in the right

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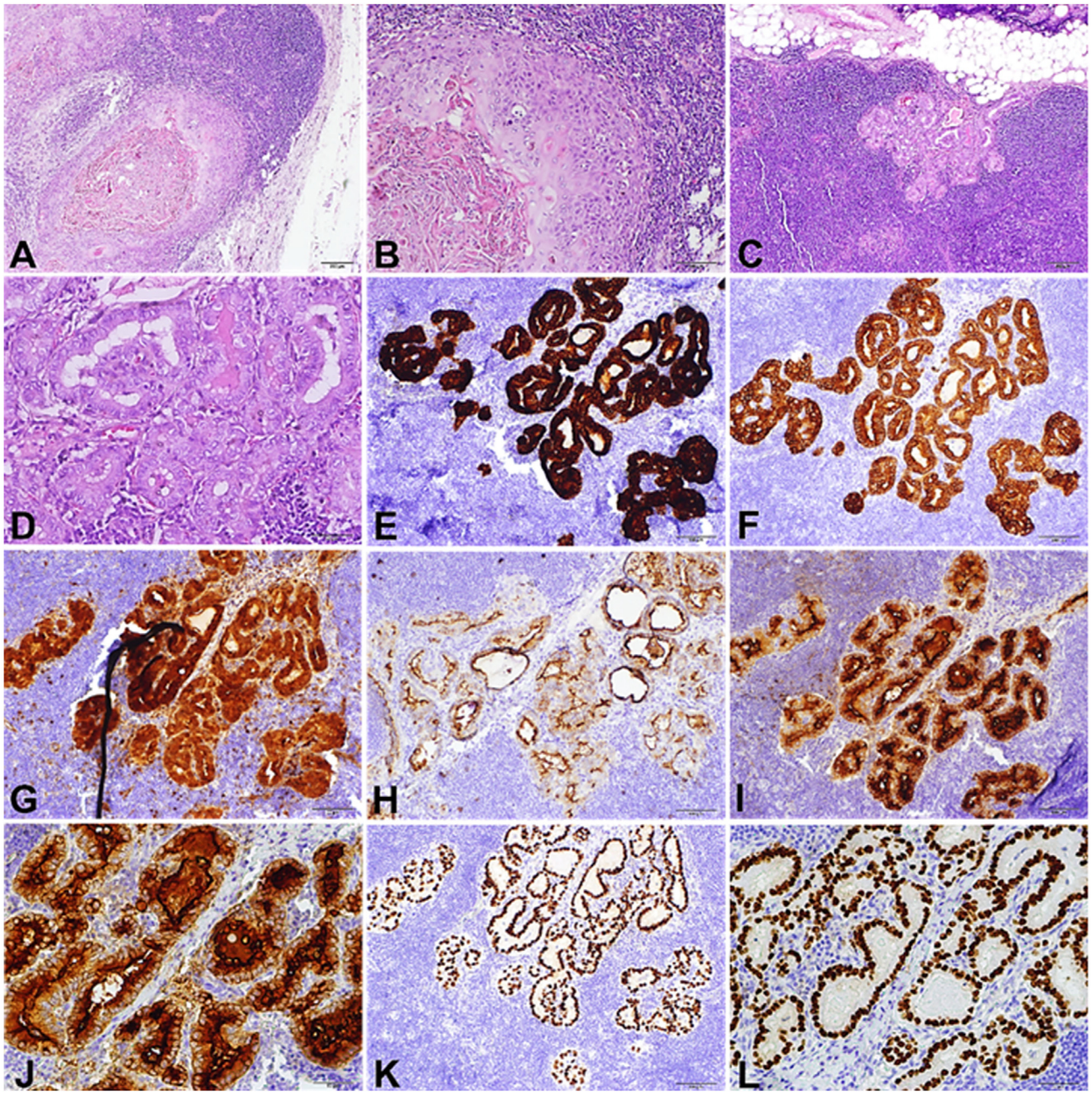

Figure 1 The microscopic images of metastatic lymph nodes of the current case. (A and B) Metastatic islands of oral squamous cell carcinoma in cervical level I lymph node (Hematoxylin and eosin stain; original magnification; A, 40×; B, 100×). (C and D) Metastatic islands of papillary thyroid carcinoma (PTC) in cervical level III lymph node (Hematoxylin and eosin stain; original magnification; C, 40×; D, 200×). (E—H) Positive immunochistochemical stainings of CK7 (E), CK19 (F), galectin 3 (G), and HBME-1 (H) in metastatic PTC islands (Original magnification; 100×). (I and J) Positive reaction for thyroglobulin stain of metastatic PTC islands (Original magnification; I, 100×; J, 200×). (K and L) Positive reaction for TTF-1 stain of metastatic PTC islands (Original magnification; K, 100×; L, 200×).

lobe of thyroid gland was confirmed. The patient underwent post-operative radionuclide (I^{131}) therapy for PTC, and adjunctive chemotherapy and radiotherapy for OSCC. The patient has been followed up for one year and there was no evidence of tumor recurrence or distant metastasis.

Abnormality of thyroid gland was detected in the pre-operative CT of the present case. Although coexistence of thyroid carcinoma and OSCC is uncommon, it is warranted to keep alert and to arrange further examination such as ultrasonography before surgery. The PTC is a less-invasive

malignancy with favorable treatment outcome.[3,4] Therefore, the prognosis of patients with synchronous PTC and OSCC depends on that of primary OSCC.

Declaration of competing interest

The authors have no conflicts of interest relevant to this article.

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