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Case Report

Primary papillary carcinoma arising from ectopic thyroid tissue in the cervical lymph node: A case report

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ABSTRACT

Ectopic thyroid tissue is rarely seen in the cervical lymph node. Thyroid carcinomas most commonly arise within the thyroid gland. Ectopic thyroid carcinoma arising in the cervical lymph node is extremely rare. Here we report a case of papillary thyroid carcinoma arising from ectopic thyroid tissue within a lateral cervical lymph node. Pathological examination revealed papillary thyroid carcinoma and non-neoplastic thyroid tissue in the cervical lymph node. No other abnormality was found in the thyroid gland or cervical region at a postoperative follow-up of 11 years. In this patient, the carcinoma was likely derived from malignant transformation of ectopic thyroid tissue in the cervical lymph node rather than cervical lymph node metastasis of primary thyroid carcinoma.

1. Introduction

Ectopic thyroid tissue is identified in approximately 1 per 100,000–300,000 persons and is reported to occur in 1 in 4000–8000 patients with thyroid disease [1,2]. It commonly occurs in the anterior midline of the neck, especially at the base of the tongue, but is rarely seen in the lateral cervical lymph nodes [3–6]. Thyroid cancers commonly arise within the eutopic thyroid gland. Malignant tumors arising from ectopic thyroid tissue (ectopic thyroid carcinoma) is extremely rare. Furthermore, it is very difficult to distinguish between carcinomas derived from malignant transformation of ectopic thyroid tissue and metastases of thyroid carcinoma. Therefore, thyroidectomy is usually performed to rule out occult thyroid carcinoma. However, sometimes carcinoma is not found in the excised thyroid gland [3,4,6–12]. To avoid postoperative hypothyroidism due to thyroidectomy, preservation of the thyroid gland is desirable, if possible. Here we report an extremely rare case of primary papillary thyroid carcinoma arising from ectopic thyroid tissue in the lateral cervical lymph node. Careful follow-up instead of thyroidectomy was chosen because by pathological and imaging findings, the carcinoma was considered to be derived from malignant transformation of ectopic thyroid tissue. To rule out the possibility of cervical lymph node metastasis of occult thyroid carcinoma, long-term follow-up was conducted after tumor resection.

2. Case report

The patient was a 50-year-old woman with swelling of the right lateral cervical region. At the age of 49 years, she noticed a small, non-tender nodule on the right side of her neck. Eleven months later, she visited a nearby dental hospital because of gradual enlargement of the nodule and mild tenderness. The prescribed anti-inflammatory drugs had no effect. One month later, she was referred to the Department of Oral and Maxillofacial Surgery, Miyazaki Prefectural Miyazaki Hospital, Japan. Medical

☆ AsianAOMS: Asian Association of Oral and Maxillofacial Surgeons; ASOMP: Asian Society of Oral and Maxillofacial Pathology; JSOP: Japanese Society of Oral Pathology; JSOMS: Japanese Society of Oral and Maxillofacial Surgeons; JSOM: Japanese Society of Oral Medicine; JAMI: Japanese Academy of Maxillofacial Implants.

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history included hepatitis B virus infection by blood transfusion for abnormal bleeding after delivery. No relevant family history was noted. Extraoral examination revealed a palpable, elastic, soft, movable mass measuring 24 × 14 mm with slight tenderness in the posteroinferior part of the right submandibular gland region at the anterior margin of the sternocleidomastoid muscle. No discoloration of the skin covering the mass was evident, and no abnormality was found in other areas of the neck. No swelling or hardness of the submandibular gland or thyroid gland was found. Intraoral examination revealed no abnormality in the oral cavity. Panoramic radiography revealed no abnormality in the maxillofacial region. Computed tomography (CT) examination revealed a multilocular cystic mass in the right lateral region of the neck, measuring 20 mm in diameter with a clear margin (Fig. 1). No nodal swelling or other anatomical abnormality was observed.

The mass was extirpated under general anesthesia. A transparent, brownish, cystic mass was found beneath the platysma (Fig. 2). Because the mass adhered loosely to the surrounding tissue, it was easily extirpated. A transition to more solid consistency was found from the superficial to deep portions of the mass. This part was extirpated en bloc with the main mass. No other abnormality was identified in the surrounding lymph nodes. The extirpated mass measured 31 × 21 × 20 mm (Fig. 3A). It was brownish in color with a yellowish-white projection. The majority of the mass was cystic and contained transparent, brownish, colloid-like material. The mass surface was covered with a delicate capsule. Histopathology revealed that the mass was predominantly composed of thyroid tissue with several thyroid follicles of varying size (Fig. 3B). Papillary structures were observed at the center of the mass. The mass was considered to be located in a lymph node for being completely covered within the nodal capsule. Analysis of the papillary structure of the epithelial cells revealed irregular nuclei with a fine chromatin pattern, nuclear groove, no or indistinct nucleoli, and intranuclear cytoplasmic inclusions (Fig. 3C–E). Immunohistochemical analysis revealed that both the thyroidal tissue and carcinomatous area were positive for thyroglobulin and thyroid transcription factor 1 (TTF-1) (Fig. 3F and G). These features were consistent with the diagnosis of papillary thyroid carcinoma. Papillary thyroid carcinoma was observed to invade the surrounding thyroid follicles (Fig. 3C). Most of the thyroid follicles were lined by non-neoplastic follicular epithelial cells with no atypia, although a fraction of the epithelial cells contained irregular nuclei with nuclear groove and intranuclear cytoplasmic inclusions. However, cellular atypism of the follicular epithelial cells were very different from the cells of the region containing papillary structures (Fig. 3D). In addition, these follicles were filled with colloid and contained resorption vacuoles. Therefore, we did not consider the tumor as follicular variant of papillary carcinoma, but rather as papillary carcinoma arising from ectopic thyroid tissue that invaded the surrounding non-neoplastic thyroid tissue.

Because the tumor was diagnosed histologically as papillary carcinoma arising from ectopic thyroid tissue, endocrinological and thyroid gland examinations were performed. However, no abnormality was found (Table 1). Ultrasonography revealed a few low echoic areas with heterogeneous echogenicity in the right lobe (Fig. 4A). Chronic thyroiditis without any tumor was suspected.

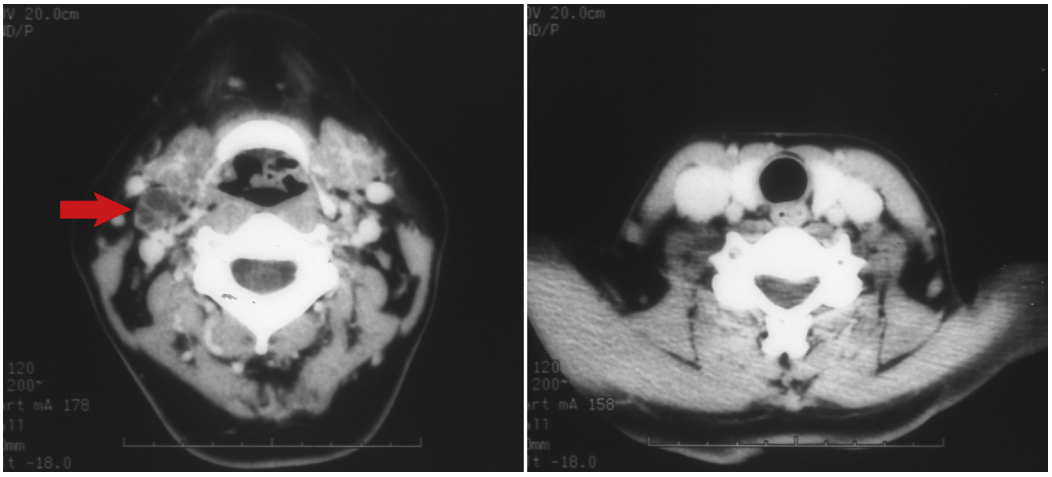

Fig. 1. Axial CT image showing a multilocular cystic mass with a clear margin (arrow).

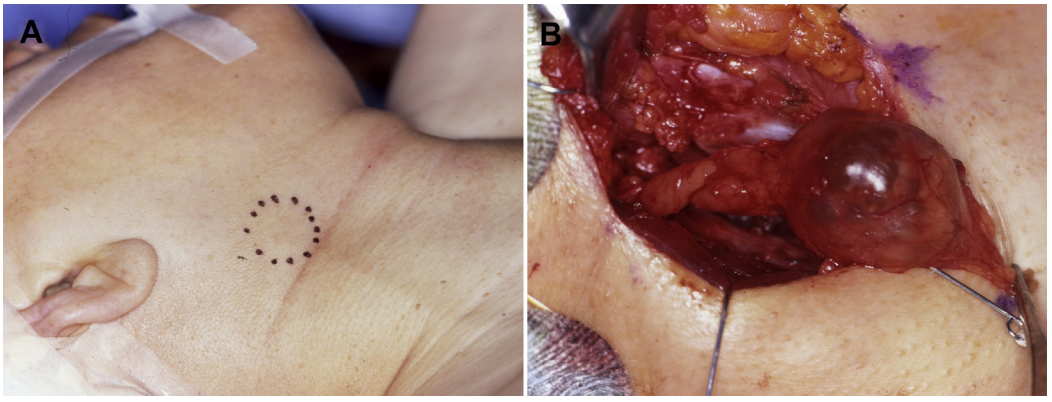

Fig. 2. (A) Macroscopic view of the neck area in which the mass was situated. (B) A transparent, brownish cystic mass was found beneath the platysma.