

## 경부 림프절 전이를 모방한 이소성 갑상선 증례

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〈Abstract〉

### Ectopic Thyroid Mimicking Metastatic Cervical Lymph Node

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Cervical neck dissection is a frequent technique during treatment for oral squamous cell carcinoma (SCC). Occasionally, specimens harvested as cervical lymph nodes reveal thyroid tissue and need differentiation with metastatic thyroid cancer and ectopic thyroid tissue. Here, we report a case of an ectopic thyroid tissue with lymphocytic thyroiditis mimicking thyroid cancer metastasis at the cervical lymph node.

**Key words:** Thyroid dysgenesis, Lymphatic metastasis, Squamous cell carcinoma

## I. INTRODUCTION

Squamous cell carcinoma (SCC) is the most common malignancy in the oral and maxillofacial region. The cervical lymph nodes are frequent locations of metastasis in oral SCC. Neck dissection for cervical lymph nodes is additionally included to oral surgery depending on factors such as positive nodes on radiologic examination and the size and location of primary tumor<sup>1)</sup>. Lymph node metastasis is one of the major prognostic factors in oral SCC survival, so

assessment of metastasis positive lymph nodes is essential<sup>1,2)</sup>. Radiologic assessment is confirmed by magnetic resonance imaging (MRI) and positron emission tomography-computed tomography (PET-CT), but false-positive reactive nodes and false-negative nodes with micrometastasis are discovered during neck dissection and pathologic examination<sup>2,3)</sup>.

In this article, we report a case of an ectopic thyroid with thyroiditis mimicking metastatic thyroid cancer collected during neck dissection of oral SCC.

## II. CASE REPORT

A 41-year-old female visited the department of Oral and

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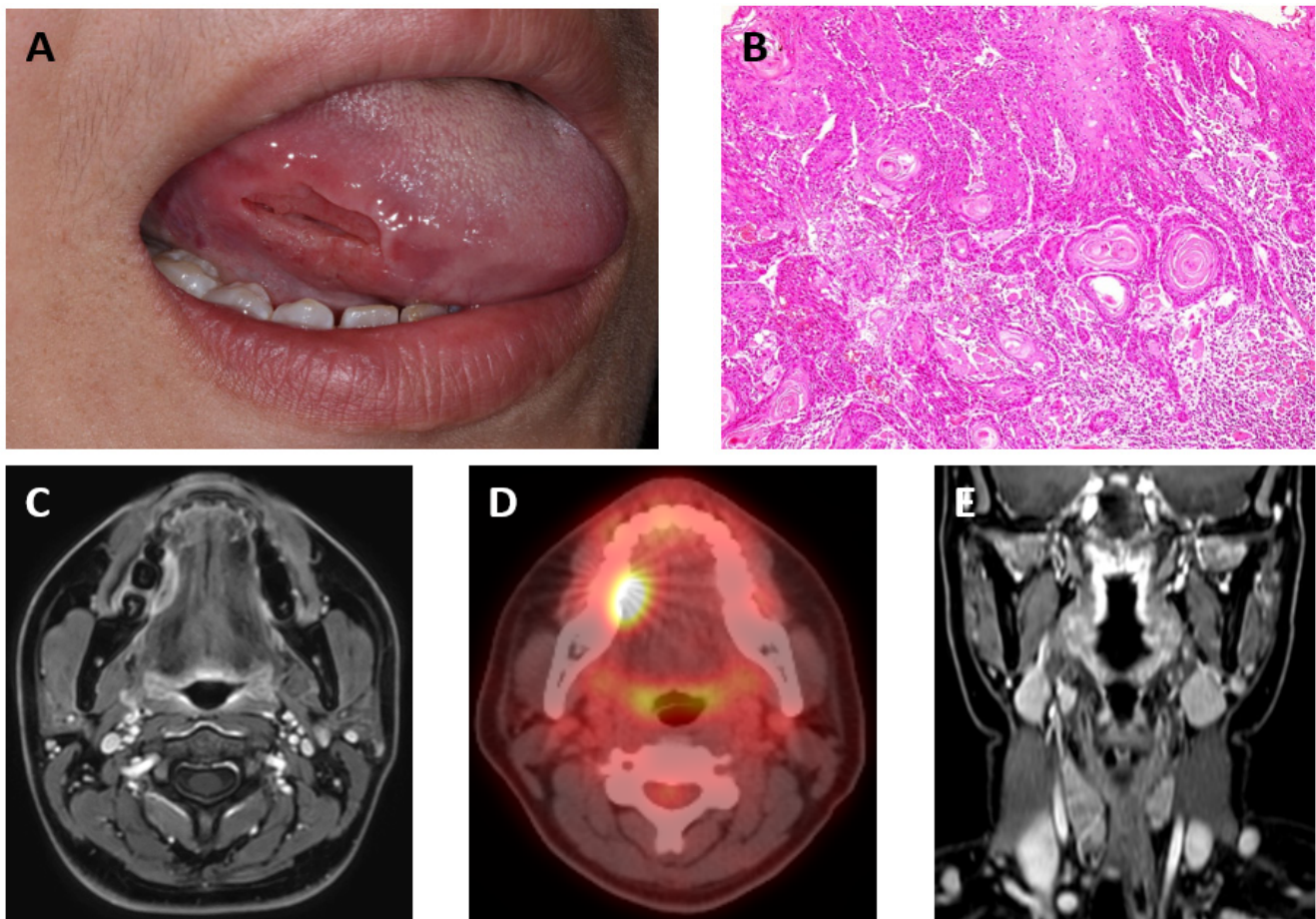
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Maxillofacial Surgery for a persistent ulcer on the right lateral tongue. The ulcer had occurred a month earlier to the visit without evidence of healing. The patient had a non-specific medical history. The ulcer had a mildly rolled-up irregular border with induration tendency (Fig. 1A). The size was 2,0×0,4cm. Incisional biopsy was done and the pathological diagnosis was invasive squamous cell carcinoma (Fig. 1B).

Radiologic assessment was established with MRI and PET-CT at the oral and maxillofacial region and neck. The tongue lesion was examined in the MRI and PET-CT image (Fig. 1C-D), but neither images indicated any metastasis positive lymph nodes or distant metastasis. The size of the tongue lesion was 2,3×0,5cm on MRI image. The node at the hyoid bone level could be seen on MRI image (Fig. 1E).

Under general anesthesia, partial glossectomy of the right



**Fig. 1**

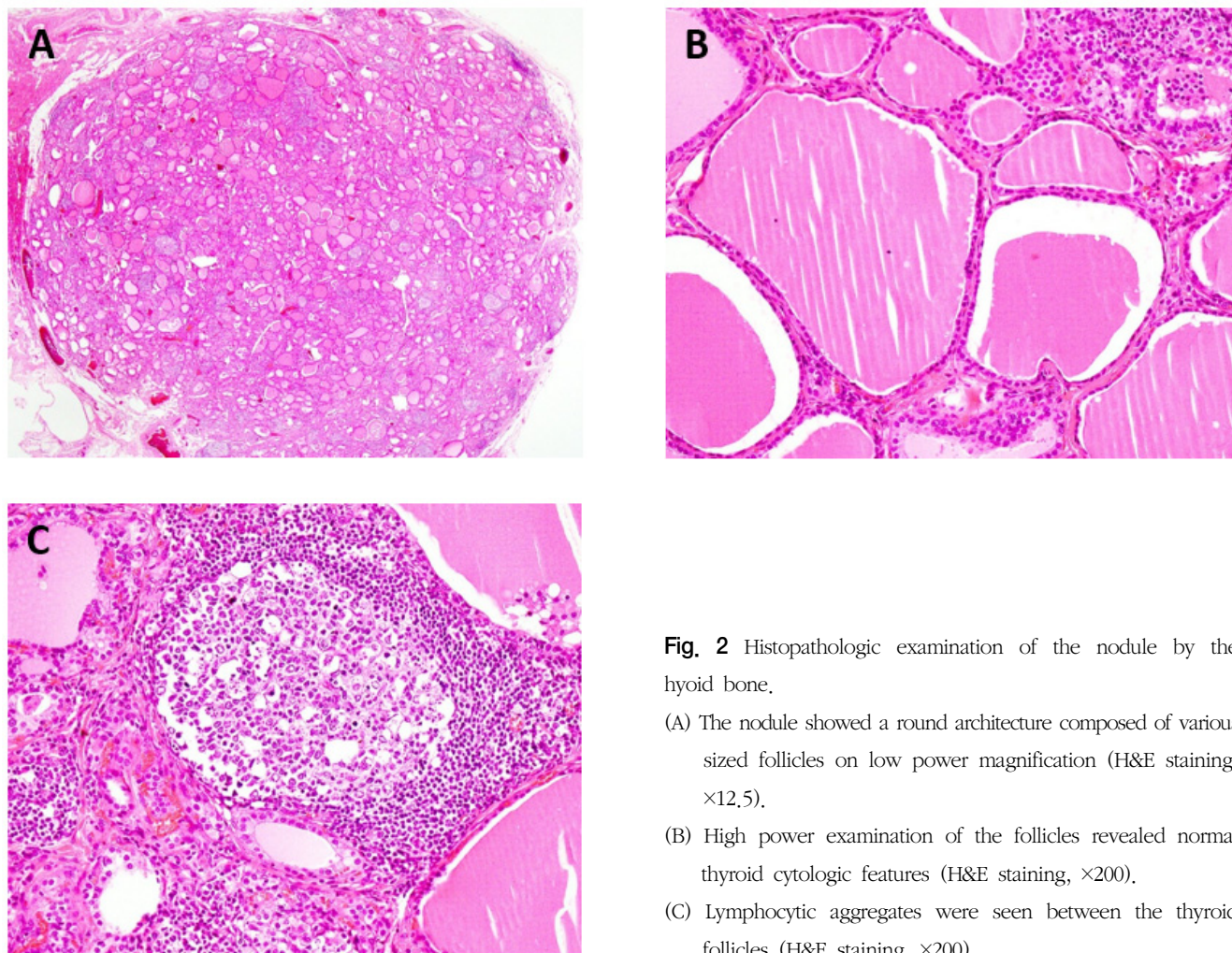
- (A) A prolonged ulcer on the right lateral tongue.
- (B) Incisional biopsy of the tongue lesion. Invading tumor cells of squamous cell origin are seen, indicating squamous cell carcinoma.
- (C) Axial magnetic resonance image of the tongue. The outer surface of the lesion was enhanced with multivane XD at the tongue muscle on T1-weighted image.
- (D) Axial positron emission tomography-computed tomography (PET-CT) image of the tongue. <sup>18</sup>F-Fludeoxyglucose (FDG) uptake was found in the tongue lesion. The adjacent lymph nodes did not show any uptake signals.
- (E) A nodule on the right side of hyoid bone showed a degree of enhancement similar to normal thyroid gland tissue on T1-weighted coronal image.

tongue with right suprahyoid neck dissection was performed and reconstruction of the tongue was made by the left radial forearm free flap.

During pathological examination of the partial glossectomy and neck dissection specimen, the main diagnosis was repeatedly confirmed as SCC. The lymph nodes were all free of carcinoma, except for a single nodule labelled as a lymph node separately harvested near the right hyoid bone which featured confusing pathologic findings.

The gross appearance of the single nodule was round similar to metastatic lymph nodes rather than the kidney bean appearance in general negative lymph nodes (Fig. 2A)<sup>4,5)</sup>. The size of the nodule was 1,8×1,5×1,4cm.

The nodule specimen was packed with various sized thyroid follicles with areas of lymphocytic aggregation (Fig. 2B-C). The round to oval follicles were lined with a single layer of cuboidal or columnar epithelium. The lumen was filled with eosinophilic colloid with frequent scalloping. There were no cellular atypia nor necrosis. The nodule specimen was judged to be most likely an ectopic thyroid with lymphocytic thyroiditis rather than a lymph node with thyroid cancer metastasis or inclusion. The thyroid was evaluated by ultrasonography and there were no specific primary thyroid diseases, including tumor, seen on image.



**Fig. 2** Histopathologic examination of the nodule by the hyoid bone.

- (A) The nodule showed a round architecture composed of various sized follicles on low power magnification (H&E staining, ×12,5).
- (B) High power examination of the follicles revealed normal thyroid cytologic features (H&E staining, ×200).
- (C) Lymphocytic aggregates were seen between the thyroid follicles (H&E staining, ×200).

### III. DISCUSSION

Other metastatic malignancies have been accidentally discovered after neck dissection of cervical lymph nodes in oral SCC<sup>6-10</sup>. The metastatic thyroid cancer type was mainly papillary thyroid carcinoma (PTC). Several cases of occult thyroid cancer of the lymph nodes without a primary tumor were described<sup>8,9</sup>. One report suggested that these occult tumors were metastatic foci with its primary at ectopic thyroid tissue<sup>5,10</sup>. Theoretically, according to thyroid development, ectopic thyroid tissue can arise in any anatomical site from the base of the tongue to the original thyroid<sup>11</sup>.

Therefore, when a thyroid related tissue is discovered during neck dissection the following differential diagnosis should be considered.

First, metastatic thyroid cancer with its primary at the thyroid has to be ruled out along with thyroid evaluation. Typical PTC can be differentiated from benign inclusion or ectopic thyroid tissue by microscopic papillary features, ground glass nuclei, eosinophilic intranuclear inclusions and nuclear grooves<sup>12,13</sup>. Metastasis is introduced into the lymph nodes by afferent lymphatic vessels, so metastasis foci locates near the outer capsule. If the metastatic foci take up the node, its oval gross appearance deforms into a round shape<sup>4</sup>. Follicular neoplasms are much tricky to differentiate from ectopic thyroid tissue. Follicular variant of PTC has a follicular morphology but is cytologically similar to PTC. Follicular carcinoma may show trabeculated architecture and cellular atypia<sup>14</sup>. Metastatic follicular carcinoma itself may be difficult to distinguish from ectopic thyroid tissue, because invasive properties may not definite within the metastatic lymph node.

Second, benign thyroid inclusion to the cervical lymph nodes have been proposed by few researchers but is still under debate<sup>8</sup>. The incidence is considered extremely rare. Thyroid tissue inclusion occupies only a partial portion of

the node at the periphery, which does not fit our case.

Third, the possibility of an ectopic thyroid tissue without tumor involvement was considered. The microscopic architecture and cytologic findings of the thyroid follicles were benign like that of normal thyroid histology. Moreover, the lymphocytic tissue seen between the follicles did not display architectures of a lymph node and were considered to be evidences of inflammation. Therefore, the case was concluded as an ectopic thyroid with lymphocytic thyroiditis near the cervical lymph nodes. Following thyroid evaluation revealed no evidences of primary tumor involvement which supported our diagnosis.

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