A Case of p16 Positive Branchiogenic Carcinoma Suspected as Lymph Node Metastasis from an Oropharyngeal Carcinoma

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Cases of branchiogenic carcinoma that strictly comply with the diagnostic criteria are rare. Human papillomavirus (HPV)-positive oropharyngeal carcinomas often manifest themselves as large and cystic lymph node metastases with a tiny primary lesion, mimicking branchiogenic carcinoma. We report herein on a case of branchiogenic carcinoma that was considered to be associated with HPV.

A 69-year-old man was referred to our department with a 2-week history of right-sided cervical swelling. Computed tomography revealed a multicystic mass measuring 35 mm in diameter in his right neck. The mass contained a small solid region, and a lymph node was seen anteroinferiorly to the cystic mass. Although a fine needle aspiration biopsy showed no malignancy, significant accumulation (SUVmax=5.3) was seen in the solid region of the mass on FDG-PET. We suspected lymph node metastasis, but failed to find a primary lesion with endoscopic and imaging examinations. The patient then underwent a biopsy of the lymph node, which turned out in frozen section analysis to be metastatic squamous cell carcinoma, suggesting cancer of an unknown primary. Conservative neck dissection (levels II-IV) was subsequently performed. The histopathological diagnosis was squamous cell carcinoma arising in a lateral cervical cyst. Immunohistochemically, the tumor was positive for p16, indicating the association with HPV. In order to examine for the presence of HPV-related cancer of the oropharynx, resection and histological examination of the palatine and lingual tonsils was performed, but no malignancy was detected. Under a definite diagnosis of branchiogenic carcinoma, the patient received postoperative concurrent chemoradiotherapy with carboplatin. He has been free from disease for 16 months after treatment.

To the best of our knowledge, this is the first case report on a p16-positive branchiogenic carcinoma. The relationship between the carcinogenesis of the lateral cervical cyst and HPV infection is unknown, and remains to be investigated.

Keywords : p16, branchiogenic carcinoma, human papillomavirus, cancer of an unknown primary

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A

B

C

Computed tomography

Enhanced computed tomography images of a 69-year-old man. White arrow (A) shows a multiple cystic mass in front of the right sternocleidomastoid muscle that has a solid lesion in cyst wall. Black arrow (B, C) shows one lymph node located beside of the masses and enhanced.