Case Report

A Lateral Cervical Cyst as the Initial Presentation of an Occult Papillary Thyroid Carcinoma: A Case Report

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ABSTRACT

Papillary carcinoma accounts for 85% to 90% of all malignant thyroid tumors. Papillary thyroid carcinoma commonly extends to the lymphatic system; metastatic lymph nodes usually present as a solid mass in the anterior or lateral aspect of the neck. Cervical cysts are usually considered benign lesions; branchial cleft cysts are the most common type of cyst identified at the lateral cervical region of the neck. A lateral cervical cyst as the initial manifestation of an occult thyroid carcinoma is rare. Aside from a thorough physical examination of the head and neck, ultrasound, computed tomography and fine needle aspiration cytology should be performed to determine the diagnosis for a lateral cervical cyst. Excisional biopsy should be performed, if the fine needle aspiration cytology is negative. We report a rare case of lateral cervical cyst, as the initial presentation of an occult papillary thyroid carcinoma.

KEYWORDS: excisional biopsy, fine needle aspiration cytology, papillary carcinoma, ultrasound

INTRODUCTION

In general, most of the cervical neck cysts of patients younger than 40 years of age are benign lesions and most commonly identified as branchial cleft cysts. Malignant lateral cervical neck cysts metastasized from squamous cell carcinoma of Waldeyer’ s ring are less common, but should be included in the differential diagnosis of lateral cervical neck cysts. An occult thyroid carcinoma initially presenting as a lateral cervical cyst is rare[1]. We report a case of a 34-year-old man with a lateral cervical neck cyst that presented as the initial manifestation of an occult papillary thyroid carcinoma.

CASE REPORT

A 34-year-old man who had been relatively healthy and without significant systemic disease and a negative family history presented to the otolaryngology outpatient department with a slow-growing painless right cervical mass noted for the past six months. The patients denied habitual cigarette smoking and alcohol consumption.

The initial physical examination showed one palpable 4.0 x 3.0 cm mass deep in the right sternocleidomastoid muscle. The neck mass was smooth, mobile, non-tender, and there was no additional lymphadenopathy or palpable mass over the thyroid gland. The nose, ears, oral cavity, pharynx and larynx were within normal limits. The computed tomography of the nasopharynx to the neck showed one 3.5 x 2.5 cm, cystic-like hypodense lesion under the right sternocleidomastoid muscle and next to the carotid sheath (Fig. 1). Fine needle aspiration cytology of the cyst was performed and the report was negative for a malignancy. Based on the physical, radiological, cytological examinations and consideration of the patient’s history, a tentative diagnosis of a branchial cleft cyst was made.

An excisional biopsy under general anesthesia was performed. The cystic-like tumor was completely removed and no tract connecting the tumor to the pharynx or hyoid bone was identified. On gross examination of the specimen, it had a thin wall with dark-brown serous fluid contents. Microscopic

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examination revealed a metastatic papillary type thyroid carcinoma (Fig. 2). After the operation, a thyroid ultrasound was performed which showed an ill-defined solid hypoechoic nodule about 9.8 x 7.5 mm in the right lobe of the thyroid gland (Fig. 3). A total thyroidectomy was performed with a right-sided functional neck dissection. Microscopic examination confirmed a unifocal papillary carcinoma measuring 0.7 x 0.7 x 0.7 cm in the right lobe of the thyroid gland and metastatic papillary thyroid carcinoma in two paratracheal lymph nodes. The patient recovered with no complications. The patient was given radioactive iodine ($^{131}$I) ablation followed by thyroid replacement therapy, and follow-up examinations for one year. The patient has had no evidence of recurrence or any other additional problems.

**DISCUSSION**

Lateral cervical cysts are usually considered benign lesions and are found most commonly in patients younger than 40 years of age. Among these lateral cervical cysts, branchial cleft cysts are the most common. Compared with benign lateral cervical cysts, malignant lateral cervical cysts as the initial presenting sign of squamous cell carcinoma of Waldeyer’s ring is less common. Without further diagnostic evaluation, the common benign lateral cervical cyst, branchial cleft cyst and malignant lateral cervical cyst metastasized from occult squamous cell carcinoma of Waldeyer’s ring cannot be differentiated.

Papillary carcinoma is the most common type of all malignant thyroid tumors. Metastasis of papillary thyroid carcinoma occurs due to lymphatic spread. The incidence of metastatic cervical lymph nodes with occult papillary thyroid carcinoma is around 30%[2]. Metastatic cervical lymph nodes commonly manifest as solid masses in the lateral cervical region; however, the appearance of a lateral cervical cyst as the initial presentation is rare[3]. This phenomenon could be explained by central liquefaction and the resultant cystic degeneration inside a lymph node from metastasis of a papillary thyroid carcinoma[4].

The treatment and prognosis of a malignant lateral cervical cyst from an occult metastasized papillary thyroid carcinoma are different than for a benign lateral cervical cyst. A delay in the correct diagnosis can increase the mortality rate. For a one-year delay
in the diagnosis of a papillary thyroid carcinoma, the mortality rate increases two to three fold[5].

The initial approach to a patient with a neck mass should include a comprehensive history as well as a careful head and neck physical examination. In addition, ultrasound and computed tomography examinations are important to distinguish between benign and malignant cervical cysts. For the ultrasound images, a metastatic lateral cervical cyst from an occult papillary thyroid carcinoma may have a thickened outer wall with septae; however, these cysts may look like branchial cleft cysts[6]. Furthermore, a metastatic lateral cervical cyst from an occult papillary thyroid carcinoma may present with intracystic enhancement elements with computed tomography.

Fine needle aspiration cytology is useful for the diagnosis of cervical mass. The sensitivity rate for a solid cervical mass is about 90% to 100%; however, the false negative rate of cervical cysts is as high as 50%[7]. Prior reports suggest that aspiration fluid with a dark brown color may be characteristic of metastatic papillary thyroid carcinoma[8]. Excisional biopsy should be performed even with negative fine needle aspiration cytology. Frozen-section analysis of the excised specimen can confirm a malignancy even when ultrasound or computed tomography cannot rule it out. If the result of frozen-section analysis of the cyst reveals a metastatic papillary thyroid carcinoma, thyroidectomy and neck dissection should be performed immediately[9].

CONCLUSION

In summary, although a malignant lateral cervical cyst metastasized from an occult papillary thyroid carcinoma is rare, it should always be included in the differential diagnosis of a lateral cervical neck cyst. A thorough history and physical examination are important strategies for the initial assessment; fine needle aspiration cytology of the lateral cervical cyst is also essential. In addition, an excisional biopsy should be performed, if fine needle aspiration cytology is negative. Frozen-section examination during the operation should be considered, if the clinical malignancy cannot be completely ruled out.

REFERENCES