Bilateral Warthin’s tumor with a fibrous variant of chronic lymphocytic thyroiditis misdiagnosed as well-differentiated thyroid cancer with lymph node metastasis

Authors: Krzysztof Kaliszewski, Anna Brona, Paweł Gajdzis, Anna Otlewska, Krzysztof Sutkowski

Article type: Clinical image

Received: June 27, 2019.

Accepted: July 31, 2019.

Published online: August 5, 2019.

ISSN: 1897-9483
Clinical Image

Bilateral Warthin’s tumor with a fibrous variant of chronic lymphocytic thyroiditis misdiagnosed as well-differentiated thyroid cancer with lymph node metastasis.

Krzysztof Kaliszewski1, Anna Brona2, Paweł Gajdzis3, Anna Otlewska2, Krzysztof Sutkowski1

1 Department of General, Minimally Invasive and Endocrine Surgery, Wroclaw Medical University, Wroclaw, Poland
2 Department of Endocrinology, Wroclaw Medical University, Wroclaw, Poland
3 Department of Pathomorphology and Oncological Cytology, Wroclaw Medical University, Wroclaw, Poland

Short Title: Bilateral Warthin’s tumor with lymphocytic thyroiditis.

Corresponding author:
Krzysztof Kaliszewski, MD, PhD
Department of General, Minimally Invasive and Endocrine Surgery
Wroclaw Medical University, Poland
50-556 Wroclaw
Borowska Street 213
Tel. 71 734 30 40
Email address: krzysztofkali@wp.pl
ORCID iD: http://orcid.org/0000-0002-3291-5294
Conflicts of interest: None declared.
Warthin’s tumor (WT) is the second most common benign neoplasm of all parotid epithelial lesions [1]. Approximately 15-20% of these tumors might be multifocal or bilateral and can thus be misinterpreted as neck lymph node metastasis [2]. WT might be caused by rare localization, being located in the minor salivary and submandibular glands or even in the lymph nodes [3]. When WT coexists with other head and neck anatomical abnormalities, such as thyroid tumors, it may be misinterpreted as metastatic disease [4].

An 80-year-old chain-smoker woman was admitted to the department of endocrinology due to suspicion of locally advanced thyroid cancer (TC). She complained of rapid thyroid tumor growth, dyspnea, dysphagia and weight loss. Physical examination revealed a large thyroid tumor and enlarged submandibular lymph nodes, with pain on the right side. Computed tomography (CT) revealed retrosternal thyroid tumors and esophageal and tracheal compression with stenosis and lateral displacement (FIGURE 1A). Enlargement of the bilateral submandibular lymph nodes was also detected. Ultrasound neck examination confirmed thyroid tumors with heterogeneous, hypoechoic echotexture, ill-defined margins and an irregular contour with enlarged, hypoechoic submandibular lymph nodes. Laboratory tests revealed hypothyroidism, and treatment with L-thyroxine was initiated. The serum calcitonin concentration was in the normal range, and anti-thyroid peroxidase (anti-TPO) and anti-thyroglobulin (anti-TG) antibodies were positive. Anti-thyroid-stimulating hormone receptor antibodies (TRAb) were negative. Single-photon emission CT (SPECT) confirmed significantly enlarged thyroid glands with submandibular metastatic nodules (FIGURE 1B). The right lobe was 2 cm below the suprasternal notch, and the left lobe reached the posterior mediastinum (FIGURE 1C). Ultrasound-guided fine needle aspiration biopsy (UG-FNAB) of the thyroid and submandibular tumors was performed; however, no sufficient material was obtained for examination. The clinical scope and radiological findings suggested thyroid lymphoma; however, the bone marrow biopsy and aspiration results were negative. UG-
FNAB of the primary tumor and upper neck nodules was performed again. The cytology result of the thyroid tumor was assigned to category III of The Bethesda System for Reporting Thyroid Cytopathology (TBSRTC), and metastatic-like follicular cells were found in specimens from the neck lesions. Because of the “uncertain” cytology result [5], a final UG-FNAB was performed, and category V was finally established. Smears from the thyroid and lymph node samples showed a sparse and moderate number of cancerous cells, respectively. Both smears displayed similar cytomorphological features of cancer cells, which raised suspicion of papillary thyroid carcinoma but were not sufficient for a conclusive diagnosis (FIGURE 1D). The patient was transferred to the department of surgery and underwent total thyroidectomy (FIGURE 1E) with bilateral selective lymphadenectomy (FIGURE 1F). A thyroid surgical specimen showed a nodular pattern of growth with associated fibrosis, chronic inflammation and follicular epithelial cells with oncocytic and focally squamous metaplasia. These features were consistent with the fibrous variant of chronic lymphocytic thyroiditis (FIGURE 1G). Surgical material from lymph nodes exhibited a classical WT appearance with oncocytic epithelial cells and lymphoid stroma (FIGURE 1H). The patient was discharged on the third day after surgery with L-thyroxin oral supplementation, and she remains under observation.
References


FIGURE 1.

(A) Retrosternal thyroid tumor (yellow arrow) with calcification (black arrow) displacing and compressing the trachea and esophagus (longer and shorter white arrows, respectively).

(B) Bilateral Warthin’s tumor (black arrows) revealed on SPECT.

(C) Submandibular Warthin’s tumor (white arrows) and retrosternal thyroid tumors situated 2 cm below the suprasternal notch (yellow arrow).

(D) Smear from the lymph node showed sheets of epithelial cells with oncocytic metaplasia and some focal features of papillary carcinoma (nuclear enlargement, nuclear grooves, nuclear membrane irregularities, nuclear molding and questionable nuclear pseudoinclusion), May-Grünwald-Giemsa staining.

(E) Partially resected left thyroid lobe with retrosternal tumor (arrows).

(F) Partially resected right Warthin’s tumor (arrows).

(G) Fibrous variant of chronic lymphocytic thyroiditis. Extensive dense fibrosis (white arrow), chronic inflammatory cells (black arrow) and follicular epithelial cells (yellow arrow) with oncocytic and squamous metaplasia. Lobular architecture of the gland was maintained, H&E staining.

(H) Classical appearance of Warthin’s tumor with a double layer of oncocytic epithelial cells (black arrow) resting on lymphoid stroma (white arrow), H&E staining.