OLGU SUNUMU CASE REPORT

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Unexpected Finding in the Neck Dissection Specimen of Papillary Thyroid Carcinoma: Concurrence of Metastatic Deposits and Tuberculosis: Case Report

Papiller Tiroid Karsinomunun Boyun Diseksiyon Materyalinde Beklenmedik Bulgu: Metastatik Odaklar ve Tüberküloz Birlikteliği

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ABSTRACT Papillary thyroid carcinoma with cervical lymphadenopathy is common in clinical practice and the disease may initially arise in this form. Apart from being metastatic foci, cervical lymph nodes may sometimes contain other diseases. It may not be easy to distinguish metastatic involvement of lymph nodes or lymph node tuberculosis by fine needle aspiration biopsy or radiological imaging, and these modalities may miss some cases. Therefore, postoperative histopathological examination is of paramount importance for a correct diagnosis to be made. Herein, we present an unexpected case of thyroid papillary carcinoma with concurrent metastatic and tuberculosis of the neighboring cervical lymph nodes. In addition to metastatic lesions, tuberculosis should also be kept in mind during the evaluation of enlarged lymph nodes concurrent with papillary carcinoma.

Keywords: Thyroid cancer, papillary; lymphatic metastasis; tuberculosis

ÖZET Servikal lenfadenopatili papiller tiroid karsinomuna klinik olarak sık rastlanmaktadır ve hastalık ilk olarak bu şekilde ortaya çıkabilmektedir. Servikal lenf nodları, bazen metastatik odak olmanın dışında, başka hastalıkları da bünyesinde barındırabilir. Böyle durumlarda etyolojiyi doğru saptamak, hastada tedavi açısından kritik rol oynar. Radyolojik görüntüleme veya ince iğne aspirasyon biyopsisi ile metastatik oluşumların ve lenf bezleri tüberkülozunun saptanması her zaman kolay olmayabilir ve bazı durumlarda gözden kaçabilir. Bu nedenle, postoperatif histopatolojik inceleme tanıda son derece önemli rol oynar. Bu yazıda, tiroid papiller karsinomunun hem metastatik odaklarla, hem de komşu servikal lenf nodlarının tüberkülozu ile birlikte görüldüğü beklenmedik bir olgu sunuldu. Papiller karsinomla birlikte büyümüş boyun lenf nodlarını değerlendirirken, metastaz dışında tüberküloz da akılda tutulmalıdır.

Anahtar Kelimeler: Tiroid kanser, papiller; lenfatik metastaz; tüberküloz

Papillary thyroidal carcinoma (PTC) is the most common primary malignant thyroid neoplasm that develops from the follicular epithelial cells of the thyroid gland. PTC commonly invades lymphatics and metastasizes to regional lymph nodes, so that 23-56% of these patients already have cervical lymph node metastasis at the time of diagnosis.[1] Due to a long list of differential diagnoses, cervical lymphadenopathy can pose a diagnostic dilemma for physicians. Its differential diagnosis should include primary or metastatic malignancies and infections.[2] Herein, we present a

rare case of an incidental co-occurrence of lymph node metastatic and tuberculous lymphadenitis in a pathology specimen taken at neck dissection for papillary thyroid carcinoma.

CASE REPORT

A 61-year-old woman presented with neck swelling. Her past history was not notable for any disease. Chest X-Ray revealed no abnormality. Laboratory tests showed a normal hemogram, biochemical parameters, and thyroid function tests. Anti-Thyroglobulin was 31.3 U/ml, Anti-TPO 15.9 U/ml, CRP 12 mg/L, and sedimentation rate 40 mm/hour. On neck&head ultrasonography, the right lobe of the thyroid gland was measured 21x21x58 mm, the left lobe 22x22x55 mm, and isthmus 5 mm; the parenchyma of the gland was heterogeneous in appearance; and there were diffuse milimetric calcifications in an area measuring 4 cm at the lateral portion of the left thyroid lobe. Lymph nodes containing milimetric calcifications were identified in the thyroid left lobe cervical chain and the left jugulodigastric region, with a size of 10x5.5 mm in and 17x7 mm, respectively. Based upon these findings, a thyroid fine needle aspiration biopsy (FNAB) was performed. As the biopsy result was suspicious for papillary carcinoma of the left thyroid lobe and there were papillary carcinoma cells in the smear taken from the left middle cervical lymph node, bilateral total thyroidectomy + central neck dissection and left lateral neck dissection (Levels II, III, IV) was performed in cooperation with an Otorhinolaryngology surgical team. No atypical cell was seen in the FNAB from the left jugulodigastric lymph node. The postoperative histopathological examination was reported as; total thyroidectomy material, papillary carcinoma, diffuse sclerosing variant (Figure 1). There were 3 pretracheal lymph nodes with signs of metastasis and necrotic granulomatous inflammation (tuberculosis); 10 lymph nodes in the left neck dissection specimen with signs of papillary thyroid cancer metastasis + chronic granulomatous inflammation; and 3 lymph nodes with only signs of chronic necrotic granulomatous lymphadenitis (Figure 2a, b, 3a, b). The patient was discharged on postoperative day 3 with a referral for radioactive iodine therapy for thyroid malignancy. No preoperative microbacteriological study was performed. Upon the presence of tuberculosis

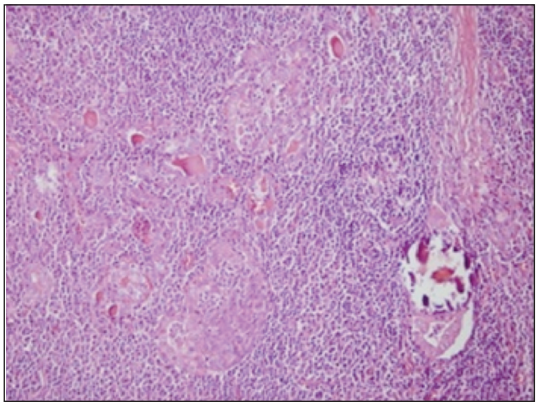

FIGURE 1: Foci of papillary carcinoma containing psammoma bodies on the background of a diffuse lymphocytic infiltration.

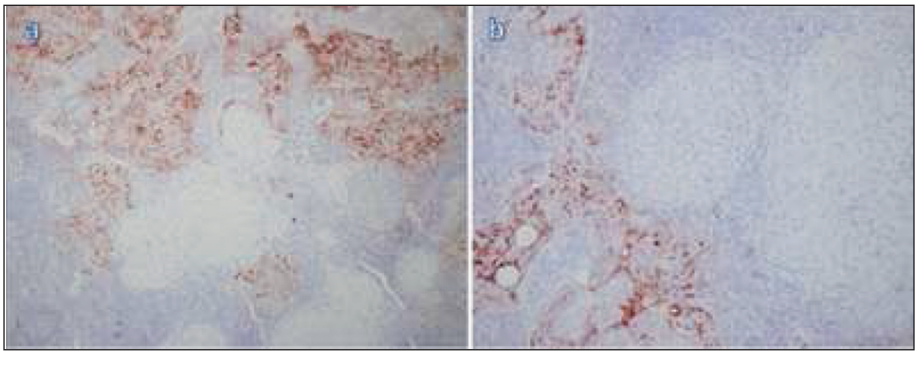

FIGURE 2: Foci of papillary carcinoma positively stained with HBME-1 in areas of a lymph node where the foci of papillary carcinoma and granuloma are visualized together.

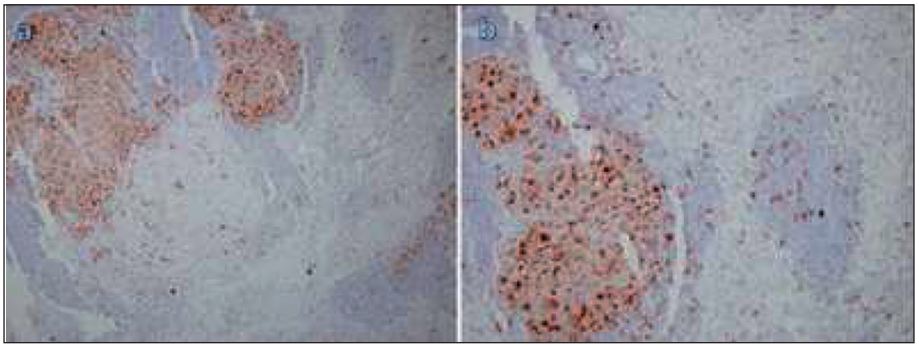

FIGURE 3: Foci of granuloma positively stained with CD68 in areas of a lymph node where the foci of papillary carcinoma metastasis and granuloma are visualized together.

bacilli in the dissected lymph nodes, the patient was consulted with the Department of Chest Diseases that began antituberculosis treatment to be used for a period of 6 months. The patient did not develop any complication during a 4-month follow-up period.

DISCUSSION

Lymphadenopathy is the enlargement of a lymph nodes due to local or systemic disorders, for the etiology of which it provides important clues. The PTC's primary route of spread is lymphatic, with hematogenous spread being rare. In about 25% of the cases the cancer shows an extrathyroidal spread within the cervical soft tissues.[3]

Tuberculosis (Tb) is the second-most common cause of death from infectious disease (after those due to HIV/AIDS). The total number of tuberculosis cases has been decreasing since 2005, while new cases have decreased since 2002. China has achieved particularly dramatic progress, with about an 80% reduction in its Tb mortality rate between 1990 and 2010. The number of new cases has declined by 17% between 2004-2014. Tuberculosis is more common in developing countries as Turkey; about 80% of the population in many Asian and African countries test positive in tuberculin tests, while only 5-10% of the United States population test positive. Hopes of totally controlling the disease have been dramatically dampened because of a number of factors, including the difficulty of developing an effective vaccine, the expensive and time-consuming diagnostic process, the necessity of many months of treatment, the increase in HIV-associated Tb, and the emergence of drug-resistant cases in the 1980s. In 2007, the country with the highest estimated incidence rate of Tb was Swaziland, with 1,200 cases per 100,000 people. India had the largest total incidence, with an estimated 2.0 million new cases. In developed countries, tuberculosis is less common and is found mainly in urban areas.[4]

Cervical tuberculous lymphadenitis may mimic PTC's cervical lymph node metastasis. It should be borne in mind that tuberculosis (Tb) may rarely simultaneously occur with papillary thyroid carcinoma or other neck&head malignancies causing lymph node enlargement. Should any suspicion arise in this regard, excisional biopsy of lymph nodes must be carried out as a part of neck dissection operation.[5] We did not suspect of tuberculosis prior to the operation, but the patient was diagnosed after neck dissection simultaneously performed with total thyroidectomy.

While tuberculous lymphadenitis (TbLa) is mostly diagnosed by histopathological examination, a microbiological diagnosis increases the overall specificity. If the diagnosis can be reliably made by clinical, laboratory, bacteriological, or cytological examinations, the treatment should be commenced without waiting for culture results.[2] Kanlikama et al. reported that, for a definitive diagnosis of TbLa, at least one of the following biopsy examination findings should be present in addition to the presence of a neck mass that persists for a

couple of weeks or months: proliferation of the microbiological agent in culture, visualization of acid-resistant bacilli in the preparations, and granulomatous inflammation and caseification necrosis in histopathological examination.[6] İnal et al. diagnosed 39 of 40 TbLa cases only by histopathological examination and 1 case by detecting ARB positivity on smear preparation. A Tb culture was ordered in 6 cases in that study but only one proliferation occurred.[7] In our case, the diagnosis was made by the histopathological examination and the treatment was begun accordingly; however, no microbacteriological study was performed at the preoperative period.

FNAB, another method used for making the provisional diagnosis, has a sensitivity of 88% and a specificity of 96%. Having an important role in providing a definitive diagnosis for peripheral lymphadenopathy, FNAB is a less invasive procedure than excisional biopsy; however, the sample volume obtained by fine needle aspiration may at times be insufficient for examination.[8] Memish et al. achieved a diagnostic accuracy of 46% with fine needle aspiration biopsy and 97% with excisional lymph node biopsy.[9] A preoperative FNAB did not prove useful for diagnosing Tb in our case.

Simultaneous existence of granulomas and metastatic tumors in lymph nodes is a rare occurrence. Simultaneous necrotising granulomas have been reported to exist in tumor stroma and neighboring lymph nodes in conditions such as colon adenocarcinoma, Hodgkin's lymphoma, metastatic foci of medullary thyroid carcinoma, bronchial carcinoma, infiltrative carcinoma of breast, and ovarian mucinous cystadenoma. Tuberculosis may be reactivated by certain immune suppressing conditions such as malignancy. It has been proposed that further research should be conducted as to whether tuberculosis facilitates carcinogenesis as other chronic infections or inflammatory conditions do.[10]

The treatment of tuberculous lymphadenitis is achieved by antituberculosis drugs. In the event of metastatic cervical lymph nodes, on the other hand, the treatment of choice is a neck dissection, and therefore it is vital to perform an accurate examination of lymph nodes in patients with papillary thyroid carcinomas.[5]

In conclusion, as tuberculosis of cervical lymph nodes may manifest as malignant tumor foci, the possibility of simultaneous and/or competing diagnoses of tuberculosis and metastasis should always be kept in mind in suspicious cases.

Conflict of Interest

Authors declared no conflict of interest or financial support.

Authorship Contributions

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