



ANAPLASTIC THYROID CARCINOMA DEVELOPED YEARS AFTER THE PATIENT HAD UNDERGONE PARTIAL THYROIDECTOMY DUE TO PAPILLARY THYROID CARCINOMA

Banu Karapolat¹, Yusuf Ziya Yamak¹ and Ayten Livaoğlu²

¹Department of General Surgery, Kanuni Training and Research Hospital, Trabzon, Turkey;

²Department of Pathology, Kanuni Training and Research Hospital, Trabzon, Turkey

SUMMARY – Thyroid cancers are frequently seen tumors and surgery is the gold standard in treatment. An 80-year-old female patient presented to our department with right side neck swelling and shortness of breath. Her history revealed that she had undergone a near-total thyroidectomy 10 years before due to papillary thyroid carcinoma and she had a growing swelling in her neck in the last 2 years. A hard mass involving the whole right side of her neck was found on physical examination. Tomography showed a mass on the right side of the neck approximately 10x12 cm in size with heterogeneous density, which was pushing the trachea to the left. Fine needle aspiration biopsy findings suggested undifferentiated malignant tumor, i.e., anaplastic thyroid carcinoma were obtained while her distant organ scans were normal. The patient was operated under general anesthesia; she underwent completion total thyroidectomy and radical neck dissection. As a result of the histopathologic examination, she was diagnosed with anaplastic thyroid carcinoma. The patient received radioactive I-131 therapy and no problems were found at her 3-month follow up examination. In conclusion, when surgical near-total thyroidectomy is performed in patients with papillary thyroid carcinoma, a new malignancy may develop in the residual thyroid tissue even after many years. In such cases, completion total thyroidectomy and adjuvant multimodal treatment methods should be preferred.

Key words: *Thyroid cancers; Surgery; Tumor relapse; Local*

Introduction

Divided histopathologically into four subgroups as papillary, follicular, medullary and anaplastic, thyroid cancers are the most commonly encountered type of endocrine tumors^{1, 2}. Of these, papillary thyroid carcinoma is the most widely occurring type and is found mostly in young adults. Surgery is the main treatment method but recurrence may occur^{3, 4}. The anaplastic type comprises less than 5% of all thyroid cancers but is agreed to be the most aggressive type. Anaplastic

thyroid carcinomas seen after the age of 60 generally allow an average survival time of about 6 months from the date of diagnosis⁴.

It has been reported in the literature that papillary thyroid carcinomas can transform to anaplastic thyroid

Correspondence to: *Banu Karapolat, MD*, Department of General Surgery, Kanuni Training and Research Hospital, Trabzon, Turkey
E-mail: banukarapolat@yahoo.com

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carcinomas. This transformation usually occurs in the papillary thyroid carcinoma spots remaining within the postoperative residual thyroid tissue or in the cervical lymph nodes^{4,5}.

The aim of this case report is to describe a patient who developed papillary and anaplastic thyroid carcinomas in a 10-year interval and was operated for both of them.

Case Report

An 80-year-old female patient presented to our department with right side neck swelling, hoarseness, shortness of breath, and coughing complaints. We learned from the patient's medical history that she had undergone left total/right near-total thyroidectomy 10 years before due to papillary thyroid carcinoma; she had no problems later until a gradually growing swelling in her neck that appeared in the last 2 years. During her physical examination, we found a hard and partially mobile mass completely covering the right side of the neck and extending to the middle line. The patient's laboratory tests were normal, and tomography showed a lobule-shaped mass approximately 10x12 cm in size of heterogeneous density, the margins of which could

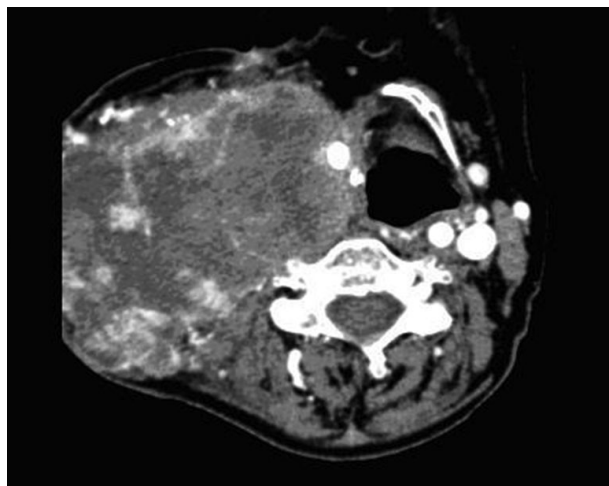


Fig. 1. Neck tomography showing a mass on the right approximately 10x12 cm in size with heterogeneous density the margins of which cannot be distinguished clearly from those of the right thyroid and parotid glands and which pushes the trachea to the left.



Fig. 2. Patient's appearance in the postoperative period.

not be distinguished clearly from those of her right thyroid and parotid glands and which pushed the trachea to the left and had occasional necrotic spots in it (Fig. 1). As a result of fine needle aspiration biopsy, histopathologic findings suggesting undifferentiated malignant tumor, i.e., anaplastic thyroid carcinoma were obtained while her distant organ scans showed no metastasis.

The patient was operated under general anesthesia; she underwent completion total thyroidectomy and radical neck dissection to the right side of the neck (Fig. 2). Having no complications in the postoperative period, the patient was discharged on day 5. On histopathologic examination, fascicles of large, pleomorphic-shaped and fusiform anaplastic carcinoma cells with vesicular nucleus and residual papillary thyroid carcinoma foci were seen and she was diagnosed with

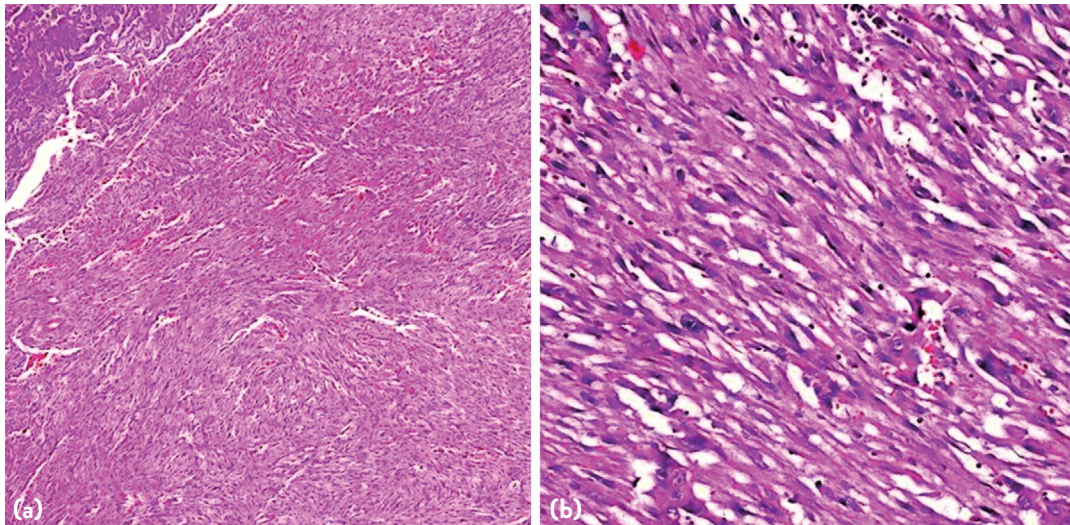


Fig. 3. (a) Anaplastic carcinoma with fusiform cells accommodating residual papillary carcinoma spots (HE X4); (b) anaplastic carcinoma consisting of fascicles of large, pleomorphic-shaped and fusiform cells with vesicular nucleus (HE X4).

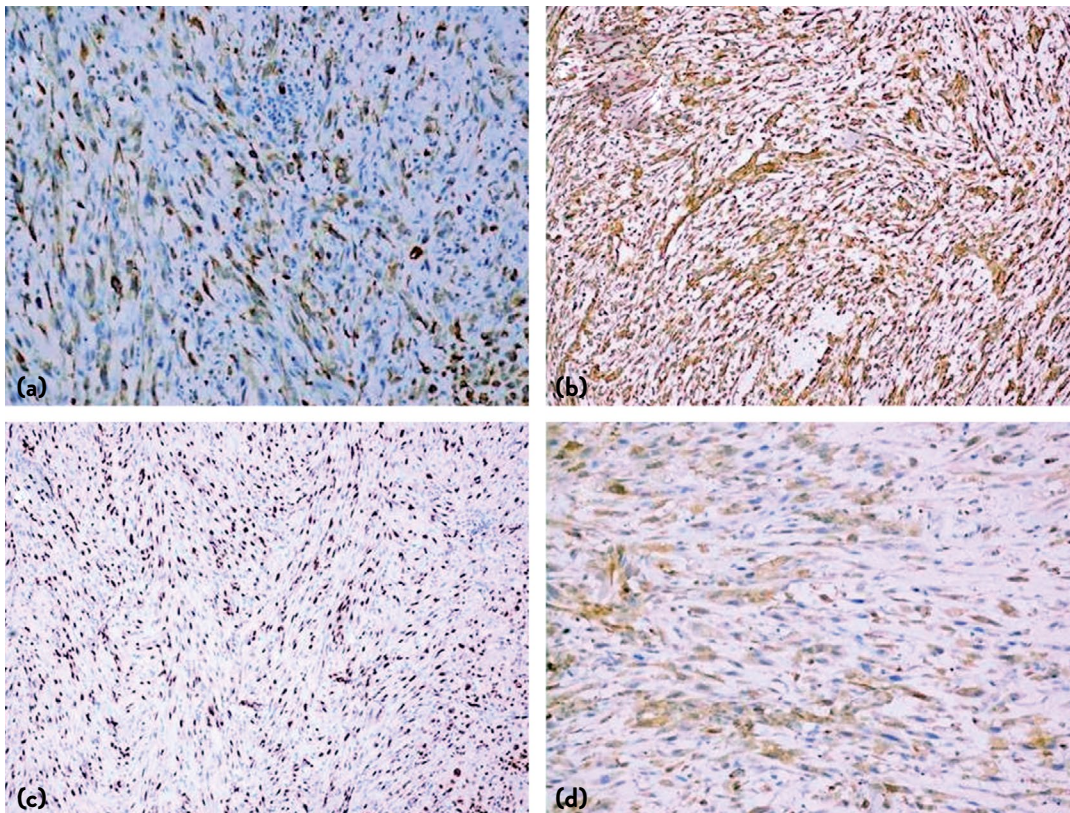


Fig. 4. (a) Cytokeratin positivity in tumor cells (CK X20); (b) vimentin positivity in tumor cells (Vimentin X20); (c) TTF-1 positivity in tumor cells (TTF-1 X20); (d) galectin-3 positivity in tumor cells (Galectin-3 X20).

anaplastic thyroid carcinoma (Figs. 3 and 4). The patient received radioactive I-131 therapy and no problems were found at her 3-month follow up examination.

Discussion

Papillary thyroid carcinoma is a low grade malignancy often showing slow progression. Although more frequently seen in women and young people, it can occur at any age. Our case was also a female who had her papillary thyroid carcinoma at the age of 70. This age is quite advanced for papillary thyroid carcinoma, and such cases are encountered rarely.

Anaplastic thyroid carcinoma occurs more commonly in the regions of endemic goiter and it is more aggressive and has poor prognosis compared to other tumors of the thyroid^{1,4}. The tumor is already non-resectable in most cases at the time of diagnosis, and may involve local-distant metastases³. Our patient was living in Trabzon, Turkey, a place where endemic goiter is seen frequently in our country, and interestingly, no metastasis was found although the mass had reached quite a large size at the time of diagnosis.

There are differing views on the choice to be made between near-total thyroidectomy and total thyroidectomy in surgical treatment of papillary thyroid carcinoma⁶. Total thyroidectomy has its own complications such as damage to parathyroid glands and recurrent nerves, and hypothyroidism, and may not be preferred in papillary thyroid carcinoma patients at advanced ages as in our case. Nevertheless, we still think that total thyroidectomy should be employed due to the high recurrence rates of these tumors and high complication risk of consequent completion thyroidectomy. Moreover, near-total thyroidectomy in papillary thyroid carcinomas may with time result in papillary or transformed anaplastic thyroid carcinomas in the residual thyroid tissue in multicentric cancers. In our case, near-total thyroidectomy had been performed due to papillary thyroid carcinoma, and anaplastic thyroid carcinoma developed in the remaining thyroid tissue 8 years later. We think that the papillary thyroid carcinoma spots at microscopic levels that existed in the residual thyroid tissue during the initial operation may have grown and transformed into anaplastic thyroid carcinoma. This view

was supported by the presence of residual papillary carcinoma spots in the anaplastic carcinoma tissue on histopathologic examination.

In a few selected patients with anaplastic thyroid carcinoma whose localized disease and general condition are well, employment of surgical resection and adjuvant multimodal treatment methods are recommended as the first-line treatment⁷. Despite her old age, our patient had good performance and her anaplastic thyroid carcinoma was confined to the neck area. For these reasons and considering her existing airway compression complaints, we opted for radical surgical treatment.

In conclusion, if near-total thyroidectomy is used as surgical treatment in patients diagnosed with papillary thyroid carcinoma, a new malignancy may develop in the residual thyroid tissue even after many years. Therefore, preferring total thyroidectomy as the primary surgical method even in patients in advanced ages seems to be a rational solution. However, if near-total thyroidectomy was performed, it is important to follow up the patient at long term for early diagnosis and treatment of a recurrence or second primary thyroid cancer that may occur.

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Sažetak

ANAPLASTIČNI KARCINOM ŠTITNJAJE NASTAO GODINAMA NAKON ŠTO JE BOLESNICA PODVRGNUTA DJELOMIČNOJ TIREOIDEKTOMIJI ZBOG PAPILARNOG KARCINOMA ŠTITNJAJE

B. Karapolat, Y. Ziya Yamak i A. Livvaoglu

Karcinomi štitnjače su česti tumori, a kirurško liječenje se smatra zlatnim standardom u takvim slučajevima. Bolesnica u dobi od 80 godina došla je u našu kliniku s oteklinom na desnoj strani vrata i otežanim disanjem. Anamneza je pokazala da je bolesnica bila podvrgnuta gotovo totalnoj tireoidektomiji 10 godina ranije zbog papilarnog karcinoma štitnjače, a otekline u vratu se povećavale u posljednje 2 godine. Pri fizikalnom pregledu utvrđena je tvrda masa koja je zauzimala čitavu desnu stranu vrata. Tomografija je pokazala masu na desnoj strani vrata od otprilike 10x12 cm, heterogene gustoće, koja je dušnik potiskivala ulijevo. Nalazi aspiracijske biopsije tankom iglom ukazivali su na nediferencirani zloćudni tumor, tj. anaplastični karcinom štitnjače, dok su snimke udaljenih organa bile normalne. Bolesnica je operirana u općoj anesteziji. Napravljena je *completion* totalna tireoidektomija i radikalna disekcija vrata. Nakon patohistološke analize kod bolesnice je dijagnosticiran anaplastični karcinom štitnjače. Bolesnica je primila terapiju radioaktivnim I-131 i na kontrolnom pregledu nakon 3 mjeseca nije bilo nikakvih problema. U zaključku, kad se izvodi kirurška gotovo totalna tireoidektomija u bolesnika s papilarnim karcinomom štitnjače može se razviti nov malignitet u ostatnom tkivu štitnjače nakon više godina. U takvim slučajevima prednost treba dati *completion* totalnoj tireoidektomiji i pomoćnim metodama multimodalnog liječenja.

Ključne riječi: *Karcinomi štitnjače; Kirurgija; Recidiv tumora; Lokalni*