



Nasal Cavity Neuroendocrine Carcinoma and Synchronous Breast Cancer: A Case Report

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ABSTRACT

Primary malignancies of the nasal cavity and paranasal sinuses are rare and diagnosed late. Herein, we presented a female patient with nasal cavity neuroendocrine carcinoma and synchronous breast cancer.

Turk J Int Med 2022;4(Supplement 1):S146-S148

DOI: [10.46310/tjim.1073665](https://doi.org/10.46310/tjim.1073665)

Keywords: Nonsteroidal anti-inflammatory drugs, adverse effect, indomethacin, liver damage, idiosyncratic toxic hepatitis, methylprednisolone treatment.

Introduction

Primary malignancies of the nasal cavity and paranasal sinuses are rare among head and neck cancers. Most patients are diagnosed in the 6th decade or later. The most common nasal cavity tumours are squamous cell carcinoma and adenocarcinoma.¹ Neuroendocrine tumours and mucosal melanoma follow these. We presented a 44 year-old patient with synchronous primary malignant tumors, treated with multidisciplinary approach.

Case Report

A 44-year-old female patient was admitted to the department of otorhinolaryngology with the complaint of congestion and mass in the left nose. She was referred to us when the biopsy result from the nasal cavity was reported as neuroendocrine carcinoma (small cell type). In PET-CT of the patient, there was a 53 mm diameter mass lesion filling the left nasal cavity, extending to the maxillary sinus, posteromedial of the orbital cavity and superiorly to the ethmoid cells (*Image 1*). Large and small lymph nodes were observed in the left parapharyngeal left upper cervical 2A and 2B. There was a nodule with a long diameter of approximately 11 mm in the upper outer quadrant of the right breast (*Image 2*). After three cycles of chemotherapy, surgery was planned for the



Received: February 17, 2021; Accepted: March 09, 2021; Published Online: March 14, 2022

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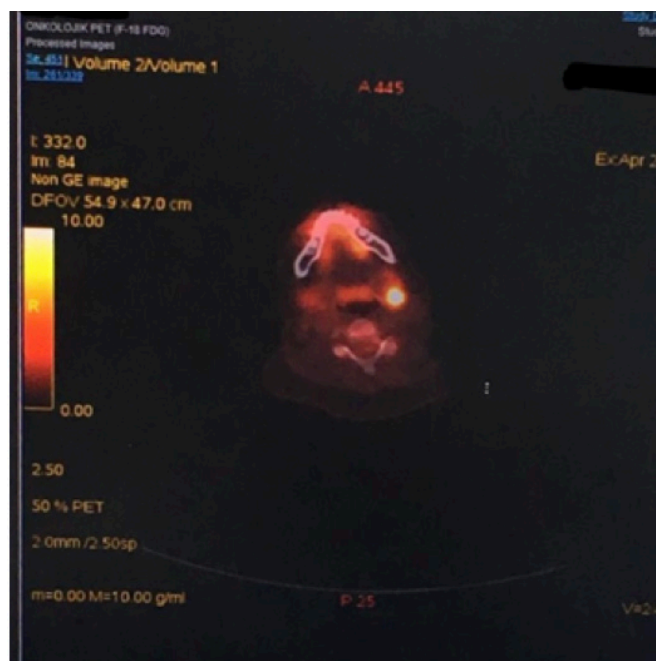


Image 1. Mass lesion with increased FDG uptake in the left nasal cavity.

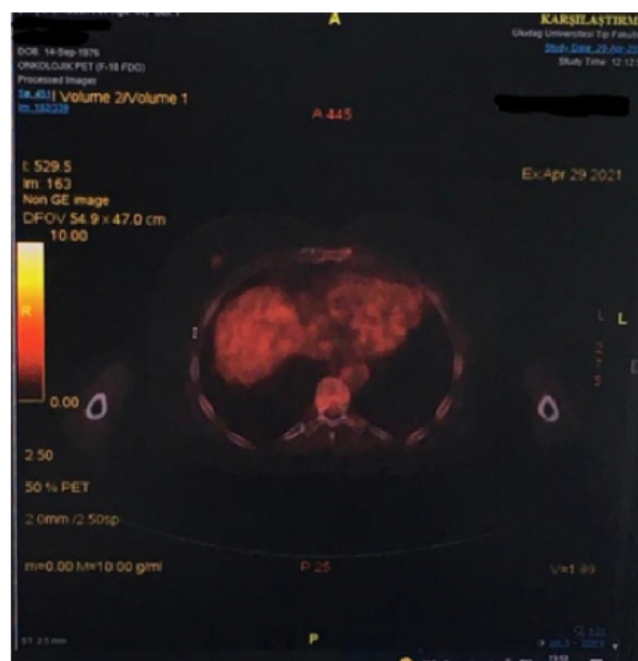


Image 2. 11 mm nodule in the right breast.

patient who was diagnosed with neuroendocrine carcinoma.

Meanwhile, the biopsy was planned for the lesion in the right breast. Control PET-CT showed regression in the activity of the mass lesion located in the left maxillary sinus, left nasal cavity and posterior orbit, reduction in the size and metabolic activity of the hypermetabolic lymph nodes in the left parapharyngeal area and level 2A. The nodule observed in the upper outer quadrant of the right breast was similar in size, and there was a decrease in metabolic activity. The breast biopsy resulted in invasive breast carcinoma (C-ERBB2: negative, ER/PR: strongly positive). Breast-conserving surgery and sentinel lymph node dissection were planned for the patient with synchronous breast cancer. Endoscopic excisional debulking biopsy was planned for the mass in the left nasal cavity. Nasal biopsy revealed hyalinized fibrotic tissue fragments and inflammatory granulation tissue. Additional surgical intervention was not considered for the patient who had a good response to chemotherapy. The right breast operation material was reported as invasive breast carcinoma. The lymph node was positive Adjuvant breast cancer

treatment was planned for the patient after the end of neuroendocrine carcinoma treatment since it primarily affects survival. After chemotherapy, radiotherapy was mainly planned for the nasal region and breast cancer. Tamoxifen was started because the patient had hormone receptor-positive breast carcinoma. The patient still continues radiotherapy.

Discussion

Billroth introduced the definition of ‘Multiple Primary Malignant Tumor’ in 1889. According to this definition, tumours must first be histologically different and must have arisen in various organs. The possibility of metastasis between these two tumours should be excluded. Multiple primary malignant tumours are divided into synchronous and metachronous tumours.² Synchronous tumours detect the second primary cancer within six months of the first cancer diagnosis. In metachronous tumours, the diagnosis period between the second and the first is diagnosed longer than six months.^{2,3}

Nasal neuroendocrine small cell carcinoma and synchronous breast cancer were detected in the patient in our case. T1N1miM0 and Stage 1B breast cancer were detected in the patient. According to the American Joint Committee on Cancer (AJCC), the 5-year survival rate is 98% for stage 1 disease. The disease-specific 5-year survival rate for T3N1M0 and Stage 3, small cell neuroendocrine carcinoma in the nasal cavity is 54-81%.^{3,4}

In this case, the treatment of nasal cavity cancer was planned primarily because primary cancer affecting survival was neuroendocrine carcinoma in the nasal cavity. After the end of treatment, she was referred to radiotherapy for neuroendocrine carcinoma of the nasal cavity before adjuvant breast cancer treatment.

Acknowledgment

This study has been presented in 18th Uludag Internal Medicine National Winter Congress, 7th Bursa Family Medicine Association National Congress, 12th Uludag Internal Medicine Nursing Congress, 3-6 March 2022, Bursa, Turkey.

Conflict of interest

The authors declared that there are no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Authors' Contribution

Study Conception: ASH, AD; Study Design: ASH, AD; Supervision: ASH, AD; Data Collection and/or Processing: ASH, AD; Literature Review: ASH; Manuscript Preparation: ASH; Critical Review: ASH, HD.

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