A Case of Lung Cancer with Brain Metastases Diagnosed After Epileptic Seizure

Epileptik Nöbet Sonrası Tanısı Konulan Beyin Metastazlı Akciğer Kanseri Olgusu

Epileptic Seizure in Metastatic Brain Tumors

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To the Editor,

"A case of lung cancer with brain metastases diagnosed after epileptic seizure" by M. Eroğlu et al. [1]

I have read the whole report with interest. The authors examined a 68-year-old male patient who had two consecutive epileptic seizures. He had a seizure for the first time in his life and he was otherwise normal both physically and mentally until a month ago when slight hemiparesis began on his right side. He has been a loyal and heavy smoker for forty years. To rule out any emergency condition, a cranial CT scan was obtained. Images discerned at least two lesions in the left frontal lobe. According to the no enhanced computerized tomography (NECT) scans of the patient, iso-dense masses at the gray-white matter interface with remarkable peritumoral edema were visualized. One of them was located in the precentral gyrus and was reminiscent of metastases. In such cases, cerebral abscess, malignant glioma, thromboembolic stroke, and demyelinating diseases should be considered in the initial differential diagnosis. The best imaging tool is likely a contrast enhanced magnetic resonance imaging study.

In adults, cerebral metastases are by far the most common intracranial tumors, and their incidence seems to be rising as systemic cancer therapies have improved, thereby extending patient's lives. The incidence of brain metastasis is difficult to determine with precision. It is apparently increasing in time and two issues might have an impact on that growing number: First, the combination of an increased incidence of lung cancer and melanoma, longer survival times of patients with cancer, and an aging population may have resulted in a primary increase in the incidence of cerebral metastases. Second, a more adequate representation of brain metastases in more recent neurosurgical studies, advances in neuroimaging techniques, and routine staging that assesses the CNS may have secondarily contributed to the growing number.

The primary tumor histology is very important in determining metastatic frequency. Indeed, more than 40% of patients with small cell lung cancer (SCLC) and lung adenocarcinoma have brain metastases at autopsy [2]. Their clinical presentation also may differ related to the area of metastases. Since metastases to the brain consist of a solid tumor mass without much infiltration in brain tissue, the volume of the usually round shaped and well-demarcated tumor tissue designates the clinical presentations if any. Almost half of the SCLC and lung adenocarcinomas and nearly all melanomas have already metastasized to the brain at the time of diagnosis of the primary tumor, therefore remote neurological findings should alert the physician to rule

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out any primary or secondary CNS lesions by imaging methods. Patients with minimal or no systemic diseases at the time of diagnosis of the metastasis and surgical treatment of the patients with multiple metastases up to 4, have a comparably better outcome than patients with low performance scales and multiple metastases exceeding four. High-dose corticosteroids constitute the initial treatment of patients with symptomatic brain metastases, with the objective of decreasing the edema that typically surrounds these tumors. If corticosteroid therapy helps to restore neurological function, that is another indicator that the patient would benefit from resection of the metastatic mass lesion. All in all, metastatic brain tumors may present with neurological symptoms mimicking stroke, intracranial hemorrhage, aneurysmal subarachnoid hemorrhage, traumatic brain injury, and some metabolic diseases as well as seizures, so the physician who is first to evaluate such a patient should consider all the clinical possibilities in the differential diagnosis and use the diagnostic imaging tools reasonably to manage such a case.

Reference

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