



Unexpected Intratumoral Bleeding during Surgery Decision: Gliosarcoma

Cerrahi Kararı Verme Aşamasında Gerçekleşen İntratümöral Kanama ve Klinik Bozulma: Gliosarkoma

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ABSTRACT

Introduction: Gliosarcoma is a rare central nervous system tumor and shows genetic, clinical, and prognostic similarities Glioblastoma multiforme. It presents with progressive neurological deficits such as increased intracranial pressure, seizures, and hemiparesis.

Case Report: We report an 81-year-old female patient was consulted from internal medicine clinic with severe headache and weakness on her right side.

Conclusion: Gliosarcoma may be accompanied by intra-tumor bleeding. It is not possible to predict when the bleeding would occur. Hematoma may mask tumoral lesion.

Keywords: Intracranial tumor, gliosarcoma, intratumoral hemorrhage

ÖZ

Giriş: Gliosarkom, nadir görülen bir merkezi sinir sistemi tümörüdür ve Glioblastoma multiforme ile genetik, klinik ve prognostik benzerlikler gösterir. Artmış kafa içi basıncı, nöbetler ve hemiparazi gibi ilerleyici nörolojik defisitlerle kendini gösterir.

Olgu Sunumu: Sağ tarafta şiddetli baş ağrısı ve güçsüzlük şikayeti ile iç hastalıkları kliniğinden konsülte edilen 81 yaşında kadın hastayı sunuyoruz.

Sonuç: Gliosarkoma tümör içi kanama eşlik edebilir. Kanamanın ne zaman olacağını tahmin etmek mümkün değildir. Hematom tümör lezyonunu maskeleyebilir.

Anahtar Kelimeler: İntrakraniyel tümör, gliosarkoma, intümöral kanama

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INTRODUCTION

Gliosarcoma (GSM) is a rare central nervous system tumor and contains both gliomatous and sarcomatous components. It shows genetic, clinical, and prognostic similarities with Glioblastoma multiforme (GBM) as an uncommon variant ⁽¹⁾. However, GSM has distinct clinical behaviors such as the tendency to settle in the periphery of the cerebral lobes, showing dural connections similar to meningiomas, intra/extracranial metastasizing, and worse prognosis compared to GBM ^(1,2). Although the treatment strategy of GSM is similar to GBM, there is no consensus on the effect of chemotherapy on the survey since GSM is rare and the literature consists of small case series showing different findings ⁽¹⁾.

The clinical presentation is also similar to GBMs, including progressive neurological deficits such as increased intracranial pressure, seizures, and hemiparesis ⁽¹⁾. A gliosarcoma case presenting with acute hemorrhage has also been reported as well ⁽³⁾.

CASE REPORT

An 81-year-old female patient was consulted from internal medicine clinic with severe headache and weakness on her right side. Her medical history included asthma and congestive heart failure. She was not using any antiplatelet or anticoagulant drug. She was conscious, alert, and oriented, but the muscle strength on the right was 3/5 on the upper and lower extremities, both proximally and distally. No speech impairment or neck stiffness was noted. In her physical examination, only bilateral leg edema was seen. She underwent cranial magnetic resonance imaging MRI showed a space-occupying lesion in the left frontotemporal area, revealed peripheral contrast enhancement (Figure 1). Surgical intervention for both diagnosis and decompression purposes was recommended to the patient. During the decision-making process of the patient and her relatives, the patient suddenly experienced loss of consciousness one day after offering surgery. Her GCS was 6 (E2V1M3). No remarkable change was seen on her vitals or ECG. Intubation was performed. A control non-contrast and contrast cranial CT were

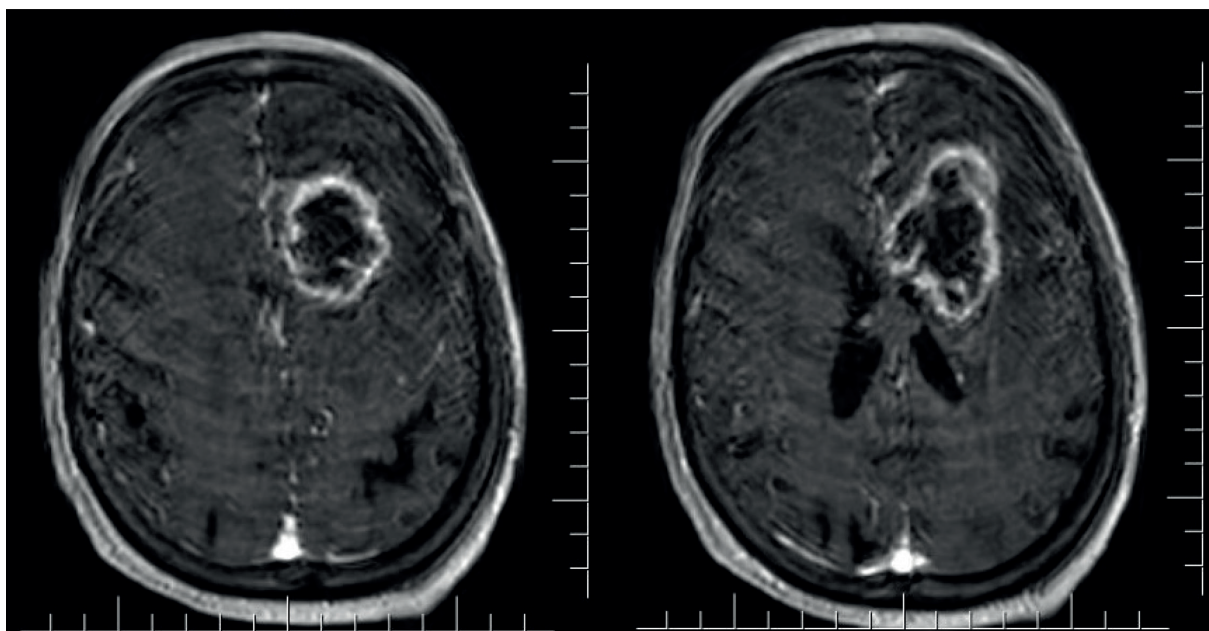


Figure 1. Contrast-enhanced axial MR images of brain showing peripherally contrast-enhanced lesion

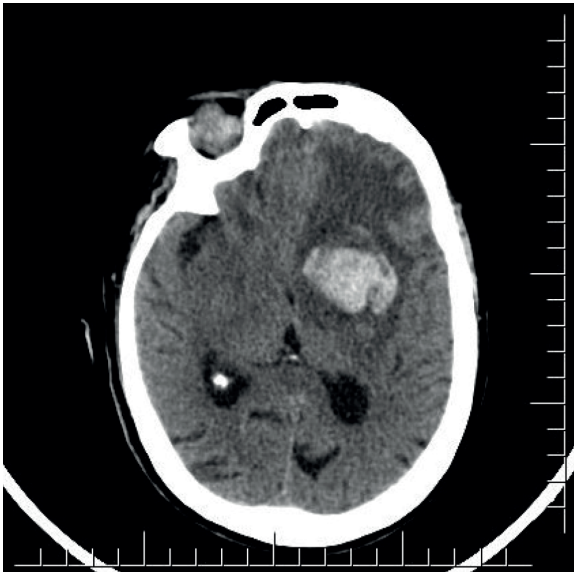


Figure 2. CT image of brain showing hematoma masking the tumor

ordered, and a re-consultation with neurosurgery was planned. The examinations revealed 35x37 mm intracerebral hemorrhage into the previously detected lesion in the left frontotemporal area and a remarkable midline shift (8 mm) (Figure 2). The patient underwent urgent surgery to evacuate the hematoma and tumor. The post-operational tomography revealed that the midline shift was recovered, and the hematoma was evacuated entirely (Figure 3). The pathology examination was reported as “gliosarcoma”. The patient died after a 4-month intensive care unit (ICU) follow-up with intubated state. As our patient did not have a chance to be extubated during her ICU follow-up, she did not receive any adjuvant chemo or radiotherapy.

DISCUSSION

GSM accounts for 1-8% of all GBM cases and less than 0.5% of all intracranial tumors (4,5). Singh et al. reported the incidence as 5.2% in their study in 2015 (1). GSM can be primary or secondary. In the same study, secondary GSM cases were detected in 2 of 16 patients. Generally, it is common in older males. The clinical

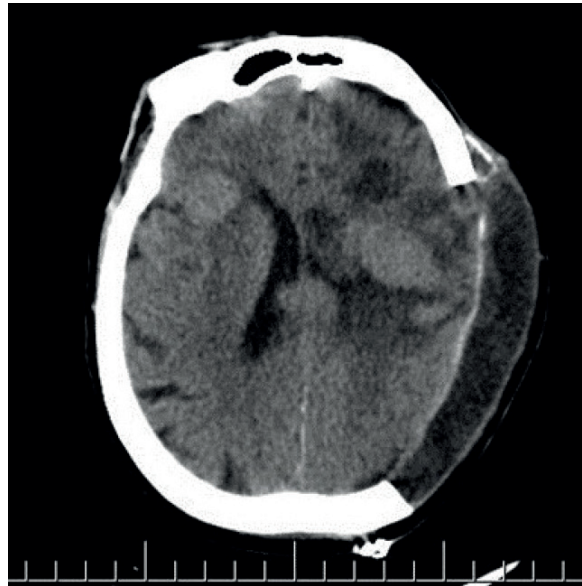


Figure 3. Postoperative CT image showing no hematoma or tumor

characteristics and treatment approaches are very similar to GBM. However, it tends to settle in the temporal lobe compared to GBM (2,6-9). It can also be found in frontal, parietal, and occipital lobes (9,10). Cases with peritrigonal, corpus callosum, ventricle, brainstem, and cerebellum involvement have been reported in the literature (1,11). Although rare, GSM can present with multifocal lesions mimicking metastatic disease (12). The tumor location in our case was the temporal lobe in accordance with the literature, but the patient was an elderly female patient.

The most common symptoms are focal neurological deficit, tonic/clonic seizures, location-specific and increased intracranial pressure presentations such as weakness, headache, nausea, vomiting, visual disturbances, confusion, lethargy, ataxia, or altered mental status (3). So it is not surprising GSM can be an ischemic stroke mimic (13). Hemorrhage has been reported very rarely in GBM cases in the literature. One report has a similar patient profile with acute hemorrhage accompanied by sudden consciousness impairment in 2019 (3). It has been suggested that the predisposing factor of

spontaneous hemorrhage in such cases is intense and abnormal vascularity. Singh et al. mentioned intracranial hemorrhage in 2 patients of 16⁽¹⁾. Duan et al. reported a GSM case presenting with rapid tumor growth in the cerebellopontine corner and intratumoral hemorrhage⁽¹⁴⁾. In cases presenting with hemorrhage, the tumor mass is often masked by bleeding on radiological imaging like our case. A case of GBM with extensive pachymeningeal dissemination mimicking a chronic subdural hematoma has also been reported recently⁽¹⁵⁾.

CONCLUSION

GSM often causes gradual neurologic symptoms depending on tumor location and size. Gliosarcoma may be accompanied by intra-tumor bleeding. It is not possible to predict when the bleeding would occur. As in our patient, it may bleed during the decision of surgery. It should be remembered that hematoma may mask tumor.

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