

**Olgu Sunumu-Case Report**

**INTRACRANIAL TUMOR PRESENTING WITH SYMPTOMS OF FRONTAL LOBE  
SYNDROME**

**FRONTAL LOB SENDROMU BELİRTİLERİ İLE PREZENTE OLAN  
İNTRAKRANİAL TÜMÖR**

**Sinan ELIACIK<sup>1</sup>**

**Özet**

Frontal lob sendromu (FLS) birçok nörolojik, psikiyatrik hastalıkla karıştırılabilen ve ayırıcı tanıda unutulmaması gereken kompleks bir durumdur. Bu yazıda demans, deliryum semptomlarıyla nöroloji kliniğinde görülen olgu ile kısaca FLS'nu hatırlatmak istedim.

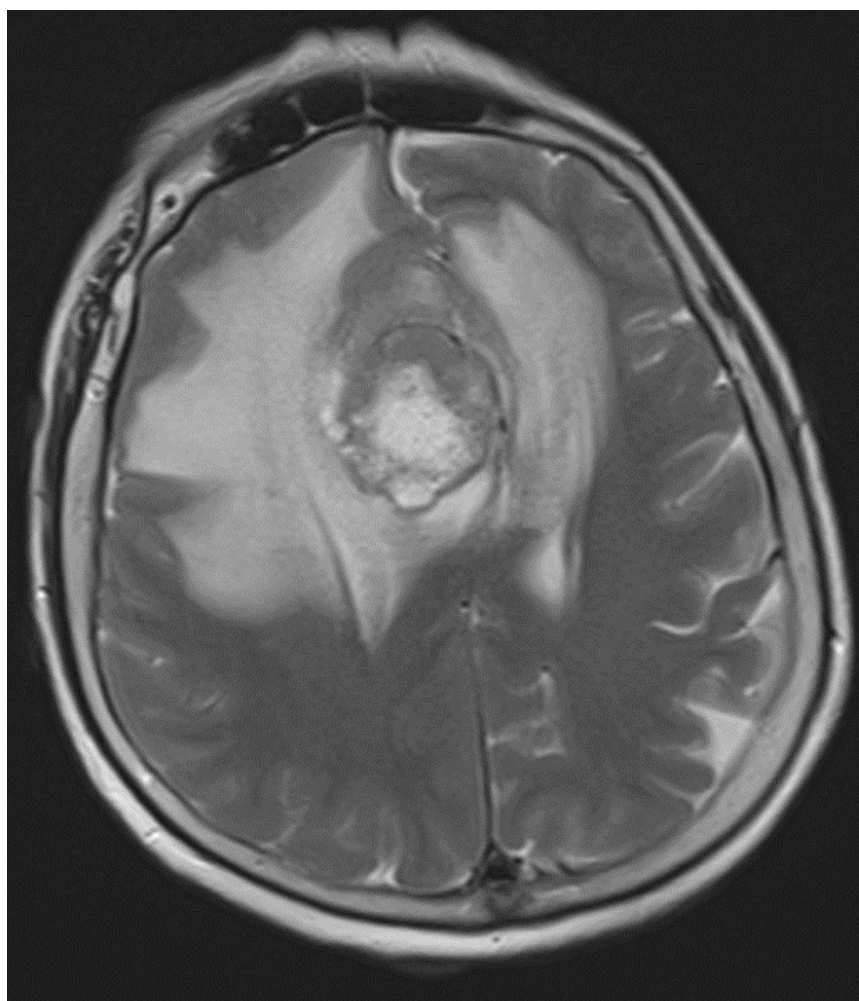
**Anahtar Sözcükler:** Demans, Deliryum, Frontal Lob Sendromu

**Abstract**

Frontal lobe syndrome (FLS) is a complex condition that can be confused with many neurological and psychiatric diseases and should not be forgotten in the differential diagnosis. In this article, I would like to briefly remind you of FLS with a case who was admitted to the neurology clinic with symptoms of dementia and delirium.

**Keywords:** Dementia, Delirium, Frontal Lobe Syndrome

The sixty-three-year-old female patient was brought to the neurology clinic due to forgetfulness and a change in temperament. Her neurological examination revealed paraparesis and bilateral plantar response were extensors. It was learned that the patient, who was a calm person before, started to speak more, showed aggressive behavior against others, repeatedly asked questions, said the same thing many times, and forgot the things she said. Even though her husband died she thinks he is alive, and she was charging insubstantial accusations about the daughter who lived with her. This situation had started 6 months ago, but in the last month, she had gradually deteriorated. The patient who started urinary incontinence was eating more than before. The patient, who was disoriented to place, time, and person, and was partially cooperative, was able to follow simple orders. Close and distant memory was impaired in the patient's examination. Magnetic Resonance Imaging (MRI), electroencephalography (EEG), and routine blood tests were planned. MRI showed a tumor at the widest part of the right inferior frontal gyrus, extending to the left frontal lobe, suppressing the corpus callosum genu-corpus level, with the effect of environmental edema. The third and both lateral ventricles were under pressure due to tumor and edema (Figure 1). EEG revealed diffuse motion artifacts and more pronounced slow activity in bilateral frontal regions.



**Figure 1:** Magnetic resonance imaging showed a tumor at the widest part of the right inferior frontal gyrus



FLS is a complex set of symptoms that occur as a result of damage to the frontal lobe and related structures or disruption of their functions. Signs and symptoms that occur when higher brain functions such as motivation, planning, social behavior, and language/speech production are affected are observed. The anterior cingulate, anterior poles, lateral prefrontal, and orbitofrontal cortex may be affected in FLS. Depending on the affected area, different symptoms will occur. As in our patient, lesions in the orbitofrontal regions, commonly known to cause "frontal lobe personality", can cause changes in behavior, lack of judgment, and leading to impulsivity (Pirau et.al. 2022).

There are also important differences in the functions of the right and left frontal lobes. For example, the right frontal lobe plays a role in non-verbal abilities, while the left frontal lobe plays a role in controlling language-related movements. Some researchers argue that this distinction is not absolute and that in many people both lobes are involved in almost all behaviors. In terms of mood disorder, lesions in the left frontal lobe have been associated with depression-like symptoms, and lesions on the right side have been associated with mania. On the other hand, bilateral lesions cause more significant deficits.

Many reasons can cause damage to the frontal lobe. Ischemic or hemorrhagic strokes, intracranial tumors or space-occupying lesions, and traumas are among the first etiologies to come to mind. Krudop et al. diagnosed a pathology in 93% of patients who had FLS (Krudop et. al. 2015 ss. 121-129). In FLS, the prognosis depends on the etiological cause. The prognosis for reversible and treatable causes such as intracranial infections or resectable tumors affecting the frontal lobe is better than for progressive neurodegenerative disorders (Pirau et. al. 2022). A comprehensive neurological examination and detailed anamnesis are required for the diagnosis of FLS. One of the most important clinical features is the dramatic change in cognitive function, as in my patient. Changes in executive functions, language, and behavior are other clinical signs that can also be observed, as in my patient. With these clinical findings, it is necessary to exclude many reasons that may be the cause of dementia and delirium in the patients we see in our clinics.

Cranial imaging may reveal atrophy, ischemia, or intracerebral hematoma as well as tumoral lesions in the frontal region.

## KAYNAKLAR

Krudop WA, Bosman S, Geurts JJ, et. al. (2015) Clinicopathological correlations of the frontal lobe syndrome: results of a large brain bank study. *Dement Geriatr Cogn Disord*. 40:121-129.

Pirau, L.; Lui, F. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; (2022).