Case Report / Olgu Sunumu
doi: 10.18678/dtfd.1516994

Duzce Med J, 2024;26(3):279-281
Düzce Tıp Fak Derg, 2024;26(3):279-281

An Uncommon Occurrence of Posterior Fossa Ependymoma in Elderly Patient: A Case Report

Posterior Fossa Ependimomunun Yaşlı Hastada Nadir Bir Prezentasyonu: Olgu Sunumu

Bilal Bahadır AKBULUT
0000-0002-7983-5056
Hüseyin BİÇEROĞLU
0000-0003-2306-0826
Mustafa Serdar BÖLÜK
0000-0002-9406-4114
Taşkın YURTSEVEN
0000-0001-7982-8115

Department of Neurosurgery,
Ege University Faculty of Medicine,
İzmir, Türkiye

ABSTRACT

Cerebellar ependymomas are rare neoplasms, even more so in elderly patients. In this case report, a 75-year-old male patient admitted with a one-year history of progressive general decline, urinary retention, left-sided weakness, memory loss, and insomnia was presented. Physical examination revealed left-sided hemiparesis and mild confusion. Cranial magnetic resonance imaging (MRI) showed a heterogeneously enhancing lesion measuring 22x15x20 mm originating from the fourth ventricle, with signs of hydrocephalus. The patient underwent tumor resection and placement of a ventriculoperitoneal (VP) shunt to address hydrocephalus. Postoperative MRI revealed no residual tumor, and the patient experienced gradual clinical improvement. Hemiparesis showed partial recovery, the overall condition stabilized, and he was subsequently discharged. Pathological examination confirmed a diagnosis of World Health Organization (WHO) grade II ependymoma. The patient is currently on a three-month follow-up.
Keywords: Aged; ependymoma; infratentorial neoplasms; case reports.

ÖZ

Serebellar ependimomlar nadir görülen neoplazmlardır ve yaşlı hastalarda daha da nadirdir. Bu olgu sunumunda, bir yıl süresince ilerleyici genel durum bozukluğu, idrar yapamama, sol tarafta güçsüzlük, hafıza kaybı ve uykusuzluk öyküsü ile başvuran 75 yaşında bir erkek hasta sunulmuştur. Fizik muayenede sol taraflı hemiparezi ve hafif konfüzyon görüldü. Kranial manyetik rezonans görüntüleme (MRG), dördüncü ventrikülden kaynaklanan, 22x15x20 mm boyutlarında heterojen olarak kontrastlanan bir lezyon ve hidrosefali bulguları gösterdi. Hastaya hidrosefaliyi tedavi etmek için tümör rezeksiyonu ve ventriküloperitoneal (VP) şant yerleştirildi. Ameliyat sonrası MRG'de, rezidüel tümör görülmedi ve hasta kademeli olarak klinik iyileşme gösterdi. Hemiparezi kısmi iyileşme gösteren ve genel durumu stabilize olan hasta bunun ardından taburcu edildi. Patolojik inceleme, Dünya Sağlık Örgütü (DSÖ) evre II ependimom tanısını doğruladı. Hasta şu anda üç aylık takiptedir.
Anahtar kelimeler: Yaşlı; ependimom; infratentorial neoplaziler; olgu sunumları.

Corresponding Author
Sorumlu Yazar
Bilal Bahadır AKBULUT
b.bahadirakbulut@gmail.com

Received / Geliş Tarihi : 16.07.2024
Accepted / Kabul Tarihi : 04.11.2024
Available Online /
Çevrimiçi Yayın Tarihi : 25.11.2024

INTRODUCTION

Cerebellar ependymomas are an uncommon subtype of ependymomas, accounting for a small percentage of intracranial tumors. These neoplasms, arising from ependymal cells lining the ventricular system, are particularly rare in the elderly, where the differential diagnosis often prioritizes more prevalent conditions such as gliomas or metastases (1-5). The clinical presentation of cerebellar ependymomas can

be insidious and nonspecific, typically manifesting as progressive neurological deficits, hydrocephalus, and symptoms related to increased intracranial pressure. Given their rarity and the often subtle onset of symptoms, cerebellar ependymomas pose a significant diagnostic challenge, particularly in elderly patients who may also suffer from concurrent degenerative or vascular conditions.

This case report highlights the clinical, radiological, and pathological features of a cerebellar ependymoma in a 75-year-old male, emphasizing the importance of considering this diagnosis in the differential workup of progressive neurological decline in elderly patients.

CASE REPORT

A 75-year-old male presented with a one-year history of progressive worsening in general condition, including urinary retention, left-sided weakness, memory loss, and insomnia that started six months before admission. The patient had a history of treatment for presumed Parkinson's disease and dementia but showed no improvement. He was admitted to our tertiary care facility for an advanced diagnostic workup.

The physical examination revealed hemiparesis on the left side and mild confusion. The patient scored 4/6/3 on the Glasgow coma scale (GCS), indicating moderate to severe impairment. Initial laboratory investigations, including blood biochemistry and complete blood count, were within normal ranges. However, magnetic resonance imaging (MRI) of the brain showed a heterogeneously enhancing lesion measuring 22x15x20 mm originating from the fourth ventricle, along with signs of hydrocephalus (Figure 1).

Given the imaging findings, the patient underwent a tumor resection and placement of a ventriculoperitoneal (VP) shunt to address the hydrocephalus. Intraoperatively, the lesion appeared as a well-circumscribed, moderately vascular tumor. Postoperatively, the patient was monitored in the intensive care unit for 48 hours before being transferred to the neurosurgical ward.

Histopathological examination confirmed the diagnosis of World Health Organization (WHO) grade II ependymoma. The tumor exhibited characteristic ependymal rosettes and perivascular pseudorosettes with a low proliferative index (Ki-67 labeling index of 4%). Immunohistochemical staining was positive for GFAP and S-100, supporting the ependymal origin of the tumor.

Postoperative MRI showed no residual tumor (Figure 2). The patient’s hemiparesis showed partial recovery, and his overall condition stabilized. He was discharged home in stable condition with plans for regular follow-up. At his three-month follow-up, the patient reported continued improvement in strength and cognitive function, although he remained dependent on Foley catheterization due to persistent urinary retention.

DISCUSSION

Cerebellar ependymomas are rare, particularly in the elderly (1-9). The majority of intracranial neoplasms in this demographic are metastatic lesions, making primary tumors like ependymomas an unusual finding (10). This case report adds to the limited literature on cerebellar ependymomas in older adults, highlighting the necessity for a high index of suspicion when encountering atypical intracranial masses in this age group.

Diagnosing cerebellar ependymomas in the elderly can be particularly challenging due to the non-specific nature of symptoms and the common presence of comorbid conditions such as dementia and Parkinson’s disease. These overlapping clinical features often lead to initial misdiagnosis, as seen in our patient, who was initially treated for neurodegenerative disorders. Advanced imaging techniques, such as MRI with contrast, are crucial in differentiating ependymomas from other common pathologies like metastatic lesions, meningiomas, or gliomas (11).

Treatment often requires surgical intervention followed by adjuvant therapies (6,7). Although studies have investigated

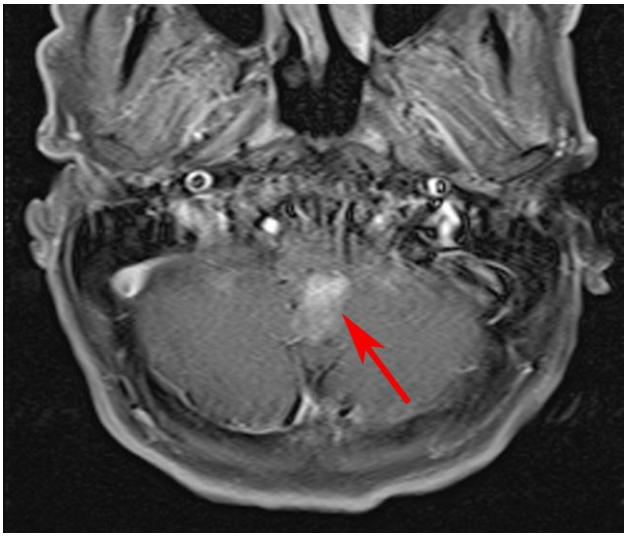

Figure 1. Preoperative magnetic resonance imaging, T1 gadolinium-enhanced sequence, note the contrast-enhancing lesion on the posterior fossa's fourth ventricle wall, marked with the red arrow

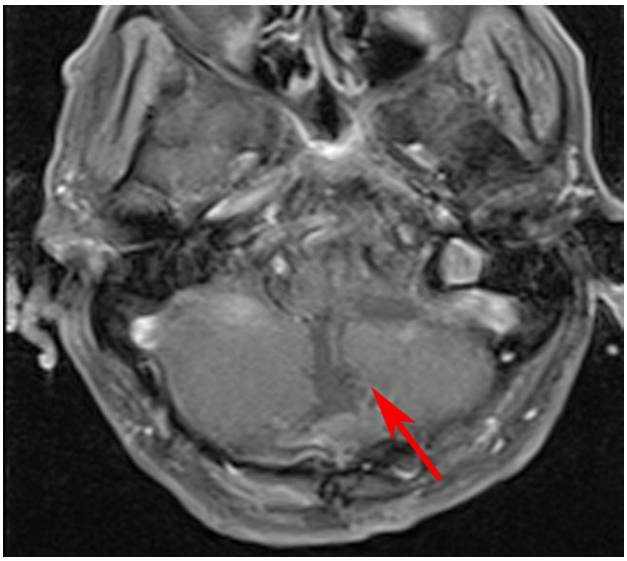

Figure 2. Postoperative magnetic resonance imaging, T1 gadolinium-enhanced sequence, the tumor is entirely resected, and the cavity is marked with the red arrow

the effectiveness of stereotactic radiosurgery with some success, this is particularly important in the elderly population due to their frailty (12). Thus, multidisciplinary collaboration is essential in these cases, involving neurosurgeons, oncologists, radiologists, and rehabilitation specialists to optimize patient outcomes.

This case underscores the need for further research into the pathophysiology, optimal treatment approaches, and long-term prognosis of cerebellar ependymomas in the elderly to inform clinical practice better and improve patient care.

Informed Consent: Written informed consent was obtained from the patient for publication and accompanying images.

Conflict of Interest: None declared by the authors.

Financial Disclosure: None declared by the authors.

Acknowledgments: None declared by the authors.

Author Contributions: Idea/Concept: HB, TY; Design: HB, TY; Data Collection/Processing BBA; Analysis/Interpretation: BBA, MSB; Literature Review: BBA, MSB; Drafting/Writing: BBA, MSB; Critical Review: HB, TY.

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