Unusual location of primary central nervous system lymphoma

Milda Sarkinaite¹, Kristina Banioniene¹, Rymante Gleizniene²

¹ Lithuanian University of Health Sciences
² Hospital of Lithuanian University of Health Sciences Kaunas Clinics, Department of Radiology

Introduction

Primary central nervous system lymphoma (PCNSL) is a high grade extranodal Non-Hodgkin’s lymphoma beginning in the central nervous system (CNS) in the lack of systemic disease. PCNSL is mainly diffuse large B-cell lymphomas and represents 1% of all non-Hodgkin lymphomas and 4% of all malignant brain tumors [1,2]. The hypothalamus is one of the rare locations of lymphoma in adults. Other lesions that can mainly involve the hypothalamus are glioma, metastasis, neurosarcoidosis. PCNSL has higher incidence in immunodeficient patients and high prevalence is organ transplants [3].

Case Report

Anamnesis

In 2015, previously healthy 69-year-old woman presented at Ukmerge Hospital with a 4-week history of:
- acute memory disturbances – impaired short term memory;
- dizziness;
- weakness;
- rapidly worsening loss of orientation and walking impairment.

There was no associated history of headache, vomiting, fever, seizures, urine incontinence or gait disturbance. She had no history of congenital immunodeficiency disease, previous organ transplantation or immunosuppressive therapy.

Diagnostic tests

- No palpable lymphadenopathy or organomegaly during clinical examination.
- Neurological examination showed loss of muscle coordination.
- The complete blood count, renal and liver function tests were normal, serology for HIV and Epstein Bar virus - negative.
- No pathological findings on abdominal and thoracic investigations.
- Patient was referred for magnetic resonance imaging (MRI); scans were performed at „Affidea” diagnostic centre and revealed contrast-enhanced hypothalamus tumor (Figure 1).
- Differential diagnosis of the lesion consisted of glioma and lymphoma and the patient was referred for biopsy.
- A stereotactic biopsy at LSMU Kaunas Clinics led to a diagnosis of diffuse large B-cell lymphoma, primarily located in the central nervous system.

Course of the disease. Part 1

Patient completed a few courses of chemotherapy treatment, but condition remained critical (acute confusional state with the need of 24-hour nursing care) although MRI scans showed no evidence of hypothalamus tumor (Figure 2).

Course of the disease. Part 2

Patient’s health status kept worsening. After 1 year MRI was repeated and revealed no hypothalamic tumor but emerging multifocal parenchymal changes (Figure 3).

Discussion

The most remarkable finding of our case is the unusual location of lymphoma involving hypothalamus and acute memory loss as clinical manifestation of the disease. Usually lymphoma is diagnosed by performing clinical examination or blood tests. Radiological diagnosis of PCNSL is often difficult because imaging findings may mimic other pathologies, although in this case MRI results led to the diagnosis of primary lymphoma.

Key words

Primary central nervous lymphoma, hypothalamus, high grade glioma, B-cell, diagnosis

References