Primary Central Nervous System Diffuse Large B-Cell Lymphoma: Case Presentation

Gresa Elezi[1], Shemsedin Sadikuj[1], Miranda Hoti[1], Viola Cavolli[1], Iliriana Alloqi Tahirbegolli[1,2]
[1]Clinic of Hematology, University Clinical Center of Kosovo, Prishtine, Kosovo, [2]Heimerer College, Prishtine, Kosovo

Introduction

Primary central nervous system diffuse large B-cell lymphoma (PCNSL) is an ominous disease with a poor prognosis. Primary central nervous system lymphomas (PCNSLs) are rare extranodal non-Hodgkin lymphomas (NHL) restricted to the central nervous system (CNS), that is, brain parenchyma, spinal cord, neural part of the eyes, the most proximal portions of cranial nerves and/or meninges. Most often PCNSLs are represented by diffuse large B-cell lymphomas (DLBCL), which are characterized radiologically by single or multiple contrast-enhancing lesions, usually at supratentorial location. They represent 2% to 3% of all brain tumors and less than 1% of all non-Hodgkin lymphomas.

Objective

Sharing a rare case report of PCNSL and its diagnostic and therapeutic outcome

Materials & Methods

Retrospective case study presentation, the data was collected from the protocols of the clinic of hematology in University Clinical Center of Kosovo.

Case Report

A 46-year-old woman was admitted in our clinic with a persistent frontal headache associated with dizziness, fatigue, and weakness. Brain MRI revealed a right frontal ganglia lesion, and a biopsy was performed on the site. The HP/Dg showed a right frontal lesion – diffuse large B-cell lymphoma, positive on CD20 with Ki-67: 90%. Since laboratory tests and physical examination findings were normal, we decided to immediately start treating our patient with rituximab-temozolomide protocol. After 6 rounds of chemotherapy, we repeated a brain MRI, and it revealed no pathological findings other than scars after the first surgery. Then, we decided to perform a PET-CT, which also revealed no pathological FDG absorption in the brain but two hypermetabolic zones in the liver with SUV-7,2. The following abdomen MRI revealed no pathological lesions in the liver, so we decided to continue with maintenance therapy with temozolomide for 8 months. Unfortunately, during the sixth round of maintenance therapy, the patient developed headaches, and repeated brain MRI revealed 35×30-mm lesions on the parasagittal frontal left hemisphere. We decided to treat with RMPV protocol. After 6 cycles of RMVP, a brain MRI revealed regression of lesions in both sides of frontal lobe, and the patient was stable for the 3 following months but was admitted again with a severe and worsening condition. MRI revealed an increased frontal lobe mass and we suggested to start a more aggressive chemotherapy approach with RMVP-ARA-C, but the patient did not survive to begin the treatment.

Conclusion

The initial response to chemotherapy was excellent, but considering the aggressive nature of the tumor, the duration of response remained short. Methotrexate-based chemotherapy markedly improves survival but it unfortunately did not in our patient.

References

1. Kitai R, Hashimoto N, Yamate K, et al. Lymphomatosis cerebri: clinical characteristics, neuroimaging, and pathological findings. Brain Tumor Pathol 2012;29:47–53.
2. Furusawa T, Okamoto K, Ito J, et al. Primary central nervous system lymphoma presenting as diffuse cerebral infiltration. Radiat Med 1988;16:137–40.
3. Gerstner ER, Batchelor TT. primary central nervous system lymphoma. Arch Neurol. 2010;67:291–297. doi: 10.1001/archneurol.2010.3. [PubMed] [CrossRef] [Google Scholar]
4. Kluin PM, Deckert M, Ferry JA. Primary diffuse large B-cell lymphoma of the CNS. In: Swerdlow SH, Campo E, Harris NL, Jaffe ES, Pileri SA, Stein H, Thiele J, Vardiman JW, editors. WHO Classification of Tumours of Haematopietic and Lymphoid Tissues. 4th. Vol. 2. IARC Press; Lyon: 2008. pp. 240–241. [Google Scholar]