Malignant Cerebellar Large Cell Lymphoma: case report and systematic review

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Osmi Hamamoto³

ABSTRACT
Introduction: primary CNS lymphomas are considered non-Hodgkin type, involving the nervous system without systemic involvement. Risk factors include prior viral infection, immune dysfunction, and family history. In recent decades, its incidence has been increasing in young immunosuppressed individuals. Methodology: the authors present a rare case of a patient with cerebellar large B-cell lymphoma and a literature review from the last ten years on the subject, in the PubMed and SciELO databases. Case report: we report a rare case of cerebellar large B-cell lymphoma in a young patient with HIV/AIDS reported during hospitalization, describing the actions taken by the neurosurgery team at Hospital das Clinicas de Marilia according to surgical complications, as well as the patient stage. Discussion: PCNSL constitute a rare condition, in which infratentorial involvement has been described in few cases in the world. They have a high degree of malignancy and high recurrence rates. If left untreated, life expectancy is very low. Conclusion: due to the increasing incidence in both immunocompromised and immunocompetent patients and the highly aggressive nature of these tumors, early diagnosis is necessary. The authors report that even teamwork with infectious diseases, intensive care and pathology were not able to increase survival in the reported case.

Keywords: Cerebellar B-cell lymphoma; Cerebelar primary neoplasm

RESUMO
Introdução: os linfomas primários do sistema nervoso central (PSNCL) são considerados do tipo não-Hodgkin sem envolvimento sistêmico. Os fatores de risco incluem infecção viral prévia, disfunção imunológica e história familiar. Nas últimas décadas, sua incidência vem aumentando em indivíduos jovens imunossuprimidos. Métodologia: os autores apresentam um caso raro de paciente com linfoma de grandes células B cerebelar e uma revisão da literatura dos últimos dez anos sobre o assunto, nas bases de dados PubMed e SciELO. Relato de caso: relatamos um caso raro de linfoma de grandes células B cerebelar em paciente jovem com HIV/AIDS durante sua internação, descrevendo as ações tomadas pela equipe de Neurocirurgia do Hospital das Clinicas de Marilia. Discussão: o PSNCL constitui uma condição rara, na qual o envolvimento infratentorial tem sido descrito em poucos casos no mundo, apresentam um alto grau de malignidade, altas taxas de recorrência e sobrevida muito baixa, quando não tratado. Conclusão: devido ao aumento da incidência e à natureza altamente agressiva desses tumores, o diagnóstico precoce é necessário. Os autores relatam que mesmo com esforços da equipe multidisciplinar e rapidez nas ações tomadas conforme intercorrências surgiram, não foi possível aumentar a sobrevida no caso relatado.

Palavras-chave: Linfoma de células B cerebelar; Neoplasia primária cerebelar

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INTRODUCTION

Primary central nervous system lymphoma (PCNSL) is an uncommon form of non-Hodgkin's lymphoma that can affect the brain, meninges, spinal cord or eyes, representing 3% of intracranial neoplasms. Only 9% of PCNSL is found in the cerebellum, generally presenting as a single lesion in 60-70% of cases. It is a less common pathology in immunocompetent patients and the average age of diagnosis in these patients is 50 to 65 years. Frequent symptoms include personality changes, aphasia, focal neurological deficit, increased intracranial pressure, muscular deficit, seizures, ataxia, emesis, confusion and visual changes. On MRI, lymphomas usually show iso or hyposignal on T2 and restricted diffusion, as they have high cellularity. When they do not present these characteristics, the diagnosis can be challenging and other differential diagnoses must be considered. The choice of treatment depends on multiple factors, such as the patient's age, previous treatment and response, and comorbidities. The role of surgery in these cases is limited, but should be considered in cases of evident increase in intracranial pressure.

In this article, we describe a case of cerebellar PCNSL in a young patient not known to be immunocompromised before hospitalization, in addition to bringing together in a systematic review, from the last 10 years, cases described in the literature to compare their clinical, histopathological and prognostic characteristics. This study provides a reference for the diagnosis and treatment of this type of disease.

METHODS

This study was based on the methodological procedures described in Preferred Report Items for Systematic Reviews and Meta-analysis (PRISMA) of the experimental type to identify, select and critically evaluate research already published on the exposed topic (Figure 1).

Figure 1. Literature search according to PRISMA guidelines.
The review was carried out on the original articles available in the PubMed and Scielo databases, that were selected using the term: “cerebellar B-cell lymphoma”, which was determined based on previous studies on the topic and analysis of the reported case. The selection criteria were studies published between 2013 and 2023, in English or Portuguese, and articles available in full. Articles that were not related to the topic studied or the research question were excluded.

Table 1 compares the reports found in the literature. These are studies with reports from one or more patients comparing common factors, including age, sex, personal history, initial clinical picture, imaging examination, management and outcome (Table 1).

<table>
<thead>
<tr>
<th>Author</th>
<th>Study type</th>
<th>Sex</th>
<th>Age</th>
<th>Previous disease</th>
<th>Clinic</th>
<th>Image exam</th>
<th>Treatment</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beraldo et al., 2019</td>
<td>CR</td>
<td>Female</td>
<td>52</td>
<td>none</td>
<td>Dizziness and left motor incoordination</td>
<td>Brain MRI: hyperintense lesion on T2 in the left middle cerebellar peduncle</td>
<td>Open biopsy and resection, dexamethasone and four cycles of chemotherapy</td>
<td>After 3 months, the patient returned with decreased consciousness level and new lesion. The patient died five days after her relapse</td>
</tr>
<tr>
<td>Ghannam et al., 2018</td>
<td>CR</td>
<td>Male</td>
<td>71</td>
<td>none</td>
<td>Dizziness, nausea, vomiting and gait imbalance</td>
<td>Brain CT: three intensely enhancing masses in the right cerebellar hemisphere</td>
<td>The patient underwent right suboccipital craniotomy with partial resection plus chemotherapy</td>
<td>No residual disease seen on head CT scans. Improvement in symptoms but still reports balance problems and blurry vision</td>
</tr>
<tr>
<td>Pancetti et al., 2023</td>
<td>SC</td>
<td>Male</td>
<td>76</td>
<td>None</td>
<td>Frontal headaches, dizziness, nausea and vomiting</td>
<td>Brain MRI: mass in the left cerebellar hemisphere with abnormal blood flow</td>
<td>Posterior craniotomy for tumor excision and chemotherapy</td>
<td>After 2 cycles of chemotherapy the patient achieved complete remission</td>
</tr>
<tr>
<td>Pancetti et al., 2023</td>
<td>SC</td>
<td>Female</td>
<td>65</td>
<td>Dyslipidemia, alcoholism, heavy smoking and 2 spontaneous miscarriages</td>
<td>Asymptomatic</td>
<td>Brain MRI: one lesion in the right hemisphere with a mass effect on the fourth ventricle and a second one in the left cerebellar peduncle</td>
<td>Posterior craniotomy with partial cerebellar tumor excision and chemotherapy</td>
<td>After 2 months of chemotherapy the patient achieved complete remission</td>
</tr>
<tr>
<td>Pancetti et al., 2023</td>
<td>SC</td>
<td>Female</td>
<td>65</td>
<td>Previous diagnosis of meningioma, treated with surgery</td>
<td>Long-standing headache and nausea</td>
<td>Brain MRI: expansive lesion in the right cerebellar hemisphere close to the dentate nucleus</td>
<td>Stereotactic biopsy, chemotherapy and auto-transplant of autologous steam cells</td>
<td>18 months after the diagnosis the patient achieved complete remission</td>
</tr>
<tr>
<td>Zhou et al., 2015</td>
<td>CR</td>
<td>Male</td>
<td>80</td>
<td>Positive for Epstein-Barr virus</td>
<td>Cervical lymphadenopathy, cough, fatigue and anemia requiring transfusion</td>
<td>Brain MRI: ring-enhancing mass lesion in the left posterior cerebellum. There is mild edema around the lesion as well as hemorrhage or mineralization</td>
<td>Stereotactic biopsy, one cycle of rituximab followed by one cycle of methotrexate and vincristine</td>
<td>The patient’s clinical course was complicated by biopsy related subdural hemorrhage and multiple infections. The patient died 4 months after the diagnosis of B-cell lymphoma</td>
</tr>
<tr>
<td>He et al., 2022</td>
<td>SC</td>
<td>Male</td>
<td>22</td>
<td>smoking</td>
<td>Dizziness, headache, nausea and vomiting</td>
<td>Brain MRI: cerebellar mass lesions within the bilateral cerebellar hemispheres with strong enhancement</td>
<td>Right cerebellar tumor excision with complete resection and chemotherapy</td>
<td>PCNSL could not be suppressed by this therapeutic strategy, and the tumour invaded other brain sections. This patient died within 9 months.</td>
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Table 1. Continued...

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<tr>
<th>Author</th>
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<tr>
<td>He et al., 2022^2</td>
<td>SC</td>
<td>Male</td>
<td>26</td>
<td>smoking</td>
<td>dizziness and unsteady gait</td>
<td>Brain MRI: high enhancement signal in the right cerebellum</td>
<td>Right cerebellar tumor excision with complete resection and chemotherapy</td>
<td>The patient has survived and is generally in good condition</td>
</tr>
<tr>
<td>He et al., 2022^2</td>
<td>SC</td>
<td>Male</td>
<td>54</td>
<td>none</td>
<td>Occipital sore</td>
<td>Brain MRI: multiple nodular signals with low T1 and slightly high T2 in both cerebellar hemispheres. The FLAIR sequence showed annular hyperintensity, and enhancement was very evident on the enhanced scan</td>
<td>Right cerebellar tumor excision with complete resection and radiotherapy</td>
<td>The patient has not experienced tumour progression and is generally in good condition</td>
</tr>
<tr>
<td>Jha et al., 2015^2</td>
<td>CR</td>
<td>Female</td>
<td>63</td>
<td>Mastectomy for carcinoma breast and pulmonary tuberculosis</td>
<td>Seizures</td>
<td>Brain MRI: large, well-defined lobulated lesion in the left cerebellar hemisphere showing a moderate enhancement with central necrotic areas and associates mass effect on the dorsolateral aspects of the pons and medulla</td>
<td>Left retromastoid craniotomy and tumor excision plus chemotherapy</td>
<td>The patient was lost to follow up</td>
</tr>
<tr>
<td>Harley et al., 2018^2</td>
<td>CR</td>
<td>Female</td>
<td>40</td>
<td>History of MG and thymectomy. She had been on azathioprine treatment 175 mg once per day for 8 years</td>
<td>3 months history of global headaches</td>
<td>Brain MRI: demonstrated a left posterior fossa rim enhancing lesion, measuring 27.21.20 mm,</td>
<td>She underwent a stereotactic left retrosigmoid craniotomy and resection of the lesion</td>
<td>When the diagnosis was confirmed, azathioprine was discontinued but pyridostigmine was continued. Unfortunately the patient developed a recurrent lesion at the site of resection 5 weeks postoperatively. She was treated with rituximab and methotrexate followed by cytarabine. At six months postoperatively the patient has minor residual fatigue, but no headache and no neurological deficits.</td>
</tr>
<tr>
<td>Galarza Fortuna et al., 2019^2</td>
<td>CR</td>
<td>Female</td>
<td>78</td>
<td>History of estrogen and progesterone receptors positive, right breast ductal cell carcinoma in situ, which was fully excised.</td>
<td>Progressive right-sided ataxia of 1 week.</td>
<td>Noncontrast head CT showed an iso-hypodense ill-defined lesion in the right cerebellum measuring approximately 1.6 cm associated with surrounding edema and mild mass effect on the fourth ventricle. A follow-up brain magnetic resonance imaging (MRI) showed multiple posterior fossa enhancing lesions and an additional punctate enhancing lesion in the left thalamus, suspicious for metastatic carcinoma</td>
<td>Right-sided posterior fossa craniotomy with excisional biopsy of the right cerebellar lesion plus pre-irradiation chemotherapy with high-dose methotrexate, rituximab, and temozolomide for 6 cycles, followed by low-dose whole-brain radiation and post-irradiation temozolomide</td>
<td>A follow-up brain MRI showed interval resolution of the multiple enhancing lesions in the posterior fossa, with no evidence of residual or new foci of primary CNS lymphoma</td>
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<tbody>
<tr>
<td>Yamamoto et al., 2015</td>
<td>CR</td>
<td>Female</td>
<td>70</td>
<td>Diabetes Mellitus</td>
<td>Progressive gait disturbance. Neurological examination revealed right-sided dysmetria and an unstable wide gait</td>
<td>CT showed ill-defined mixed density (iso- and hypo) lesion in the cerebellum. Magnetic resonance imaging (MRI) revealed an irregularly shaped and relatively homogeneously enhanced mass with surrounding brain edema. This intra-axial mass was located mainly in the cerebellar vermis and extended to the right hemisphere of the cerebellum. A diffusion-weighted image showed mild fluid restriction and a map of regional cerebellar blood volume from a perfusion-weighted image indicated increased blood flow</td>
<td>The patient underwent 5-ALA-induced fluorescence guided surgery. the fluorescent tumor tissue was partially resected.</td>
<td>The patient underwent the first course of high-dose methotrexate therapy (HD-MTX). Because of mild renal dysfunction, the patient could not receive the next course of HD-MTX. Thus, the patient underwent subsequent radiotherapy. The patient's condition improved without any other neurological deficit. No recurrence of the tumor was detected on MRI performed 21 months after the surgery</td>
</tr>
<tr>
<td>Franzini et al., 2023</td>
<td>CR</td>
<td>Male</td>
<td>60</td>
<td>None</td>
<td>Dysarthria, mental slowing and gait instability. Neurological examination showed wide-based gait, adiadochokinesia, dysmetria at the finger-to-nose test in the right limb, and increased instability with eyes closed. Brain MRI: characterized the lesion as isointense on T1 and hyperintense on T2 weighted sequences. A strong homogeneously contrast enhancement was observed in the central part of the lesion. MRI spectroscopy showed a non-specific neoplastic pattern</td>
<td>A trial of high-dose intravenous steroid was started with the transient reversal of the cerebellar syndrome. Then, they performed an open surgical biopsy for histological diagnosis. In addition, they proceeded with the resection of the central contrast-enhanced part of the tumor.</td>
<td>Post-operative MRI showed the nearly complete resection of the central contrast-enhanced area of the tumor. The patient completely recovered his neurological status and was referred to an oncologist for adjuvant therapies.</td>
<td></td>
</tr>
<tr>
<td>Datta et al., 2013</td>
<td>CR</td>
<td>Female</td>
<td>55</td>
<td>None</td>
<td>Symptoms of ataxia and disorientation of 1 week duration. She was suffering from headache and vomiting for four months. Concurrently, she had a weight loss of 11 kg, daily fever and chills over the same duration. Clinical examination revealed slurred speech, finger to nose ataxia worse on the right side and truncal ataxia, with no other significant neurological deficits. T2- weighted axial, T1-weighted and gadolinium-enhanced T1- weighted axial magnetic resonance imaging (MRI) scans of brain showed a contrast enhancing mass with peritumoral edema in the right cerebellar hemisphere</td>
<td>Intravenous dexamethasone was initiated and a subtotal resection of the cerebellar lesion was performed. Cytotoxic therapy with carmustine 200 mg IV 6 weekly three cycles followed by external beem radiation therapy (EBRT) 30 Gy.</td>
<td>No recurrence was noticed in one year follow-up.</td>
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In relation to sex, we can observe a small predominance of females in the reported cases, at 53.3%. Regarding age, the fact that lymphomas are a pathology strongly related to aging is corroborated, as 60% of cases increase progressively after the age of 40. Regarding personal history, all reported patients were immunocompetent, confirming the premise that PCNSL has been growing in this population, when compared to immunocompromised patients, mainly due to greater access to new therapies in autoimmune diseases and HIV. However, there is a relationship between a history of previous neoplasia and subsequent development of PCNSL, with 26.6% of cases. Clinically, the most prevalent findings were vertigo (33.3%), motor incoordination (33.3%), nausea and vomiting (33.3%) and headache (33.3%), followed by gait imbalance (26.6%) and disorientation (20%). On head CT, these tumors usually present as a single hyper- or isoattenuated lesion, while on MRI, they tend to be hypo- or isointense on non-contrast T1 sequences and hyper- or isointense on non-contrast T2 sequences. The proposed treatment for the reported patients was mostly surgery for tumor resection (73.3%) with adjuvant chemotherapy (66.6%), of which, among those who received this treatment combination, they achieved a 57% survival rate. Other treatments were considered together, such as radiotherapy (20%). It is noted that the use of corticosteroids – 20% of patients – was related to partial resection of lesions in 100% of cases, which corroborates the data found in the literature that lymphomas are sensitive to corticosteroids, leading to apoptosis and changing cells in the lesion, reducing the diagnostic yield of the biopsy and altering surgical success rates.

**CASE PRESENTATION**

Male patient, 40 years old, formerly deprived of liberty, admitted with a history of disabling sudden rotational vertigo, associated with holocranial headache with severe stitches and episodes of emesis for 5 days. He reported being a smoker, fashion designer and former drug user. On neurological examination, he was alert, conscious and oriented, in an antalgic position, isochoric and photoreactive pupils, preserved strength and reflexes, stiff neck, gait ataxia.

The initial head tomography demonstrated a hypoattenuating cerebellar lesion on the right, without contrast enhancement, measuring 3.6 x 1.7 x 1.5 cm, a tenuous hyperattenuating area postero-inferior to the IV ventricle (Figure 2). On MRI, an expansive formation measuring 4.3 x 3.3 x 2.5 cm was observed, located in the right hemisphere and cerebellar peduncle, with heterogeneous signal in all sequences and hypointense foci in SWI, with strong ring impregnation with gadolinium and minimal peripheral diffusion restriction, promoting compression of the IV ventricle and the pons, in addition to mild bulb deformity, likely neoplastic lesion (Figure 3).

The patient was hospitalized for symptoms and underwent primary lesion screening, cultures and serology. Computed Tomography (CT) showed a right cerebellar hypoattenuation, without contrast enhancement, tenuous postero-inferior hyperattenuation area of the fourth ventricle.
tomography of the abdomen was unremarkable, CT of the chest showed left axillary lymph node enlargement. Non-infectious CSF, negative blood cultures (for bacteria and fungi), negative serologies for hepatitis A, B and C; VDRL negative, serological reaction for toxoplasmosis IGG + and IGM negative and HIV positive. Bactrim and empirical regimen for neurotoxoplasmosis were started, with CD4 collection.

The patient developed a worsening headache associated with episodes of emesis, vertigo and mental confusion. A new head CT revealed an infratentorial mass effect and CSF transudation. External ventricular shunt (EVD) was performed with an improvement in the level of consciousness. After 3 days, drowsiness, disorientation, intense holocranial headache, bilateral orbital edema and hyperemia; presented dysphagia and bloody emesis. On examination, Glasgow 13, disoriented, slurred speech, paralysis of the IX and XII cranial nerves, with head CT showing a normopositioned catheter, maintaining ventricular dilation (Figure 4). The following morning he developed a worsening level of consciousness, Glasgow 8 and angioedema. Orotracheal intubation was performed following neuroprotection, with glottis edema observed during the procedure. After two days, the patient underwent resection of the cerebellar lesion. A fresh biopsy revealed the absence of malignancy criteria, compatible with an infectious process. Empirical treatment was initiated for bacterial, fungal and tuberculosis infections.

**Figure 3.** MRI (Magnetic resonance imaging). Expansive formation, located in the right hemisphere and cerebellar peduncle, with heterogeneous signal in all sequences, promoting compression of the IV ventricle and pons, in addition to mild bulb deformity.

**Figure 4.** CT (computerized tomography). Infratentorial mass effect and cerebrospinal fluid transudation. External ventricular shunt conduct.
After two days, he was extubated without complications, maintaining Glasgow 15, however, a few hours later, he experienced a sudden episode of emesis, followed by a lowering of the level of consciousness and Cushing’s triad, being intubated and sedated with a reversal of the condition. Functioning EVD, maintained at 10 mmHg, with 150ml of clear output in the last 24 hours. During the night he developed D>E anisocoria, with reversal after neurointensive measures.

He underwent a new head CT, which showed that the patient did not present ventricular dilation (Figure 5). The following day, the patient developed loss of brain stem reflexes, the EVD, which was 10 mmHg, had a flow rate of 450 ml, bloody, however the patient died a few hours later.

Anatomopathology and immunohistochemistry confirmed the diagnosis of diffuse large B-cell lymphoma of the non-germinal center type (Figure 6).

Figure 5. MRI (Magnetic resonance imaging). Resection of the cerebellar lesion was performed, in the frozen section there were no malignancy criteria, compatible with an infectious process.

Figure 6. CT (computerized tomography). Absence of ventricular dilation.
DISCUSSION

PCNSL is a rare intracranial neoplasm with an annual incidence of 0.5 cases per 100,000 people\(^1\). Of these, only 13% are located in the infratentorial brain, of which 9% affect the cerebellum. The vast majority of cases are diffuse large B-cell lymphomas, accounting for approximately 90%\(^4\). PCNSL generally presents as a single focal lesion, however, approximately 18% to 30% of cases in immunocompetent patients presented multiple lesions, which are often supratentorial\(^8\).

In immunocompetent patients, the average age at diagnosis is 50-65 years, with a male to female sex distribution of 1.2: 1, while in immunocompromised patients, the average age is around 30-35 years, with a clear predominance male, with 7.4:1. The incidence of PCNSL increases exponentially with aging, with three possible explanations for this phenomenon: first, immunological dysfunction increases in older patients, mainly due to thymic involution; second, several genes and molecules undergo changes as we age, promoting the development of tumors; and third, the incidence of chronic inflammation may gradually increase with aging\(^11\). Immunocompromising in these patients is typically secondary to HIV, organ transplantation, or primary immunodeficiency syndrome.

More recent studies show a significant decrease in PCNSL cases among patients with HIV, justified by greater access to antiretroviral therapy\(^8\). The incidence in the immunocompetent population has increased more than 10-fold in recent years\(^13\). In both groups the outcome without therapy is high mortality, but overall survival for treated patients is much better for immunocompetent patients (19 months) than for immunosuppressed patients (2.6 months)\(^13\).

The most frequent symptoms involve neuropsychiatric, signs of increased intracranial pressure – such as headache, nausea and vomiting – seizures and ocular symptoms\(^4\), determining a diagnosis can be challenging because of the absence of typical clinical symptoms, the heterogeneous pathological morphology and the lack of specific exams, in addition to the variable appearance on imaging exams.

Image-guided stereotactic biopsy, including immunohistochemistry and pathology, remains the gold standard method for diagnosing PCNSL. From a histopathological point of view, diffuse large B-cell lymphomas exhibit diffusely growing tumors with medium to large perivascular aggregates, atypical cells with nuclear pleomorphism and often prominent nucleoli, and, in some cases, extensive necrosis\(^5\).

From a molecular point of view, this tumor carries somatically rearranged and hypermutated immunoglobulin genes, with frequent rearrangements of the BCL6 gene. In many cases, we have a loss of expression of HLA class I and II proteins, which explains the ability to grow in immunoprivileged sites\(^3\).

In some situations, pathological evaluation may be compromised, such as in patients with intracranial expansive lesions who are frequently treated with corticosteroids, to which lymphomas are sensitive. The use of corticosteroids often leads to apoptosis and morphological changes in lymphoma cells, which can decrease the diagnostic yield of biopsy\(^8\).

Unfortunately, it is an aggressive tumor with high recurrence rates after treatment, and without treatment, survival is expected to be only 3-6 months. Surgical excision of these tumors is rarely possible due to their deep location, with a significant risk of postoperative neurological complications, and should be used in cases of solitary lesions and in cases of increased intracranial pressure. The main disadvantage when approaching a PCNSL in the posterior fossa by open surgery is that this tumor may appear indistinguishable from normal cerebellar parenchyma, causing the surgeon to identify pathological tissue based solely on image-guided neuronavigation and frozen section biopsy, time-consuming\(^11\).

It is known that PCNSL are highly sensitive to radiation. Therefore, patients must be evaluated regarding the possibility of radiotherapy, depending on individual criteria such as comorbidities and risk factors that contraindicate radiation. Furthermore, some chemotherapy drugs such as methotrexate, procarbazine and cytarabine are being widely used as therapeutic proposals\(^3\). However, even with timely therapeutic intervention, the prognosis of these tumors remains poor.

CONCLUSION

PCNSL is a rare disease with increasing incidence in both immunocompromised and immunocompetent individuals.
The highly aggressive nature of these tumors requires diagnosis and intervention as soon as possible, mainly due to the scarcity of clinical and imaging resources for diagnostic confirmation, making the use of biopsy crucial. Involvement of the cerebellum and other deep structures, such as periventricular regions, basal ganglia and brain stem, is associated with poor prognosis and reduced survival, which explains the importance of the lesion site and the description of this case. Furthermore, this pathology presents a challenging diagnosis, given the heterogeneity of clinical symptoms associated with imprecise characteristics in imaging exams, making it common for patients to have mistaken management. We present a rare case of cerebellar large B-cell lymphoma in a patient not known to be immunocompromised, with an infectious-looking lesion on fresh biopsy with treatments corresponding to the suspicion, with rapid evolution with cognitive deterioration and death.

REFERENCES


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