

Non-Hodgkin Lymphoma Mimicking Chronic Subdural Hematoma: Case Report

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Received: December 14, 2018; Published: February 26, 2018

DOI: 10.31080/ecne.2018.10.00310

Abstract

67-year-old white female patient with a history of behavioral change and chronic headache. Magnetic resonance imaging showed hypointense concave-convex subdural collection. In the intraoperative period, a mass was evidenced and biopsy material was collected. The histo-pathology result revealed a non-Hodgkin's B-cell lymphoma. This case highlight the importance of performing biopsy when intraoperative is identified noncombatant lesion with the diagnostic hypothesis raised based on findings of radiology and to realize the fact that MRI may not safely differentiate between chronic subdural hematoma and other subdural lesions.

Keywords: Lymphoma; Subdural Hematoma; Mimic; Subdural Mass; Magnetic Resonance

Abbreviations

CSH: Chronic subdural hematomas; MR: Magnetic Resonance; PLCNS: Primary Lymphomas of the Central Nervous System; TBI: Traumatic Brain Injury

Introduction

Primary lymphomas of the central nervous system correspond to 0.85% to 2.0% of tumors of the central nervous system. They may present as subdural collections in up to 15% of cases and, in the first analysis, be confused with chronic subdural hematoma.

This is a report of a patient with a radiological image suggestive of chronic subdural hematoma (CSH), but the final diagnosis was a B-cell non-Hodgkin's lymphoma in the central nervous system.

Case Report

A 67-year-old white female patient with a history of behavioral change and chronic headache. There was an episode of traumatic brain injury months ago. At admission, she was in Glasgow for 15, with no focal neurological deficits. Magnetic resonance (MR) imaging showed hypo-intense concave-convex subdural collection in T1 (Figure 1) and T2 (Figure 2) on the right - the MR was not performed with contrast.

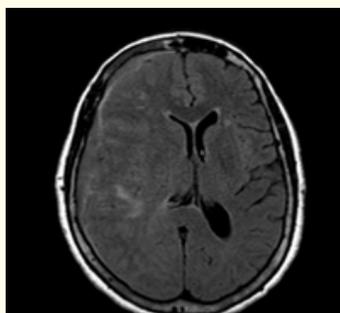


Figure 1: Axial RM T1- Weighted RM.

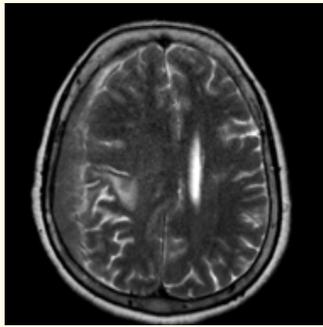


Figure 2: Axial T2-weighted RM.

There was no report of fever, weight loss or seizures. There was no evidence of infection; CSF examination was normal. Test for HIV and Epstein-Barr Virus were negative.

She underwent trephination surgery, with two holes to the right. In the intraoperative period, a mass was evidenced and biopsy material was collected (Figure 3). A small craniotomy was performed to amplify the surgical field.



Figure 3: Intraoperative aspect of the subdural mass after the small craniotomy.

After surgery, there were no changes in the clinical status of the patient. The neurosurgical team decided to initiate dexamethasone intravenously.

During hospitalization, the patient developed generalized tonic-clonic seizures well controlled with antiepileptic drugs. There was no deterioration of the neurological status.

The histo-pathology result revealed positivity for CD23, CD20 and CD79a. Ki 67 index was 40-60%. Glial fibrillary acidic protein (GFAP) was negative. The final diagnosis was non-Hodgkin's B-cell lymphoma.

The patient was referred to follow-up with oncology team but unfortunately died without quimo-heraphy and radio-therapy treatment being completed.

Methodology

A literature review of the articles related to the case was carried out and the patient's medical history was collected in the medical record.

Results and Discussion

Chronic subdural hematomas (CSH) occur more frequently in elderly patients and the signs and symptoms expressed are nonspecific. Any mass lesion occupying the subdural space may theoretically reproduce a chronic subdural hematoma in an initial evaluation [1].

Primary lymphomas of the central nervous system (LNPS) present as extra-axial collections with radiological characteristics similar to chronic subdural hematoma [2]. On magnetic resonance imaging, T1-weighted images reveal isointense or hypointense lesions. In T2-weighted images may appear hyper-intense. Catana, *et al.* demonstrated the CSH is hypointense at T1-weighted in 41% of cases and hyperintense at T2-wieghted in 72% [3]. In our case, the T1-weighted image appeared hypo-intense, although on T2-weighted the subdural mass was hypo-intense.

Another diagnosis mimicking a subdural hematoma is present in other cases described in the literature. Reys and coworkers presented a case of a patient diagnosed with a chronic encapsulated subdural hematoma which, in fact, was dural lymphoma [4]. Souza Filho, *et al.* reported a case of Burkitt's lymphoma presenting with characteristics of chronic subdural hematoma [5]. In addition, if the patient presented a history of traumatic brain injury (TBI), it is possible to confuse the diagnosis. For example, Ramnarayan, *et al.* reported a case of a patient with a previous history of TBI with extra-axial collection on initial imaging examination suggestive of chronic subdural hematoma that was, in fact, a lymphoma [6].

LPSNCs present perivascular infiltrate, which spreads by centrifugation, and may invade the cerebral parenchyma [7]. The brain lesions may be multiple and involve deep structures of the gray matter, as well as of the white matter, often presenting areas of necrosis. However, they may occur exclusively in leptomeninges [8,9], as seen in our case. In a systematic review, Catana, *et al.* identified 29% of cases of lymphoma in a patient with subdural collection on imaging examination [3].

We report the case to highlight the importance of performing biopsy when the something unusual is identified during surgery, mostly when the lesion can lead to a disease with other treatment than surgery alone. It's important to the surgical team that the MRI may not safely differentiate between chronic subdural hematoma and other subdural lesions, so we must have as differential diagnosis of subdural lesions also lymphomas.

Conclusion

It is important to make an adequate evaluation in cases of subdural mass and include in the differential diagnosis the possibility of a lymphoma.

Conflict of Interest

There was no conflict of interest.

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Volume 10 Issue 3 March 2018

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