

SHORT REPORT

## Dural infiltration of metastatic Hodgkin's lymphoma

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### Abstract

Hodgkin's disease is a neoplasm of clonal Reed–Sternberg cells. Intracranial Hodgkin's lymphoma is rare. We present a unique case of a 57-year-old woman with secondary intracranial lymphoma infiltrating the dura. Her past medical history included Hodgkin's lymphoma from which she was deemed to be in remission at the time of presentation. Following an acute onset of seizures, she underwent radiological investigations that demonstrated an enhancing right-sided temporal dural-based space occupying lesion. Histopathological findings revealed nodular sclerosing Hodgkin's lymphoma with pathognomonic Reed–Sternberg cells. In cases of intracranial lesions with dural infiltration, Hodgkin's lymphoma should be considered in the diagnosis.

**Key words:** Brain metastasis, histology, intradural, intrinsic lesion, neoplasm, surgical management.

### Introduction

Hodgkin's lymphoma is a disease that is initially localized to a single peripheral lymph node region and its subsequent progression is by direct spread within the lymphatic system. The bi-nucleate Reed–Sternberg cells are the distinctive neoplastic cells in Hodgkin's lymphoma and are central to the diagnosis. Histological classification is divided into four types (lymphocyte-predominant, nodular sclerosing, mixed cellularity and lymphocyte-depleted). The natural progression of the disease is dissemination to involve secondary non-lymphatic tissue, such as the nasopharynx, larynx, lung and stomach. However, intracranial Hodgkin's disease is rare. We report an unusual case of intracranial metastatic nodular sclerosing Hodgkin's lymphoma with dural infiltration.

### Clinical details

A 57-year-old woman presented to her local hospital with a new onset of tonic-clonic seizures. Her past medical history included cerebral tuberculosis diagnosed 10 years previously (which was treated with surgical intervention and antibiotic treatment). Furthermore, 2 years prior, she was diagnosed with stage IVB nodular sclerosing Hodgkin's lymphoma.

Following chemotherapy, there was no evidence of recurrence or systemic spread at the time of this presentation.

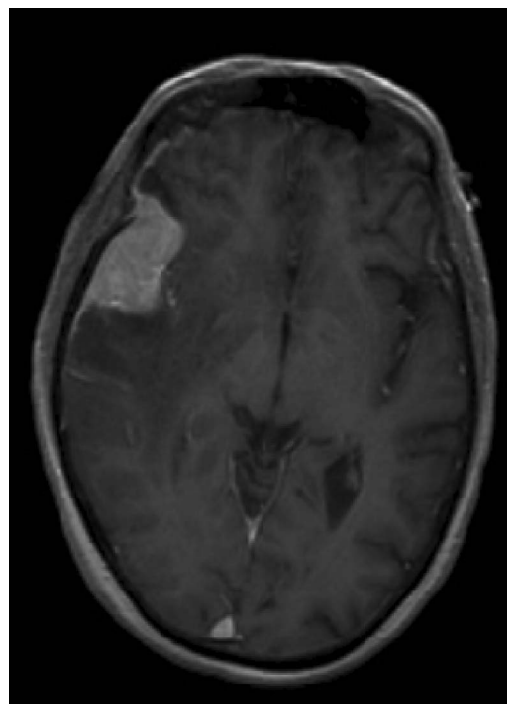


FIG. 1. Axial T1 postcontrast MRI brain scan demonstrates a right-sided enhancing temporal space occupying lesion.

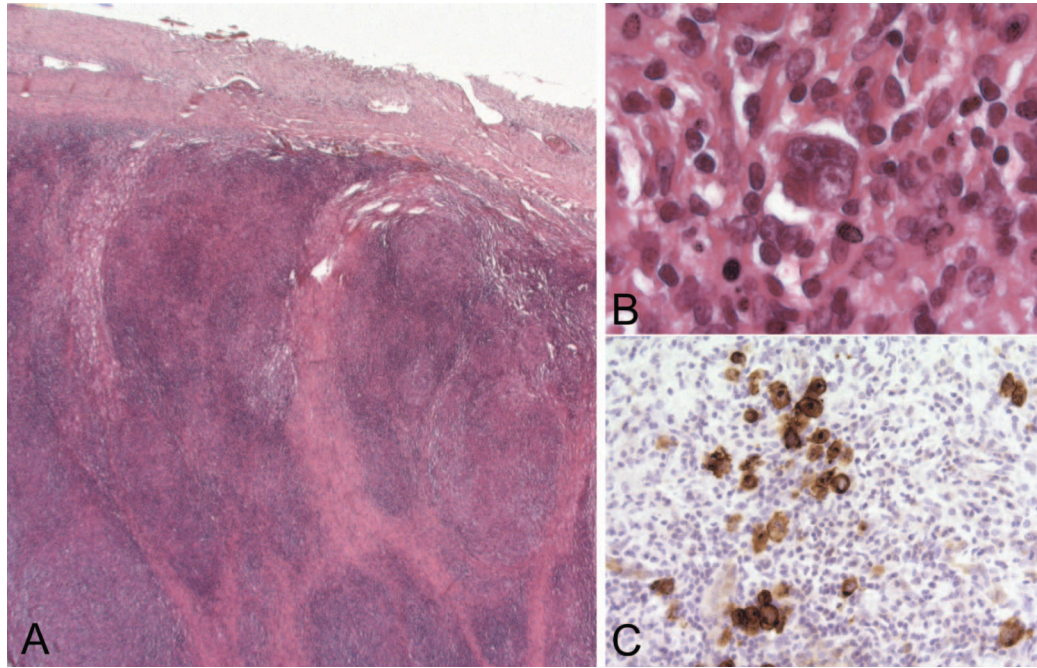


FIG. 2. Histopathology. (A) Low-power micrograph showing the close relationship between the tumour and the overlying dura. The tumour architecture is also well-demonstrated in this view, with nodules of neoplastic cells separated by sclerotic bands. (B) High-power view showing a classic bi-nucleate Reed-Sternberg cell surrounded by small lymphoid and histiocytic cells. (C) Immunohistochemistry confirming expression of CD30 in the large, neoplastic Reed-Sternberg cells, but not in the small lymphoid population.

She underwent a CT head scan with contrast, which revealed a right-sided temporal dural-based space-occupying lesion with mass effect and surrounding oedema. The CT scan of her chest, abdomen and pelvis was unremarkable.

On transfer to the Neurosurgical Unit, she was neurological stable. On examination, her GCS was 15/15 with no evidence of cranial or peripheral nerve involvement. There was no evidence of occult systemic lymphoma. A detailed physical examination revealed no palpable lymph nodes or discrete masses. She underwent a MRI brain scan, which revealed a right-sided enhancing dural-based lesion in the anterior and middle cranial fossae (Fig. 1). A stealth-guided craniotomy and macroscopic total resection of the tumour was performed. Histopathological and immunochemical examination revealed nodular sclerosing Hodgkin's lymphoma with dural infiltration (Fig. 2).

## Discussion

The first recorded description of Hodgkin's disease was documented by Malpighi *et al.* in 1666. In 1832, Thomas Hodgkin published his first paper on lymphatic disease describing the systemic symptoms as painless lymphadenopathy, fever, weight loss and shortness of breath. In 1945, the first recorded case of cerebral lymphoma was described. Clinical presentation may include cranial nerve palsies, peripheral nerve deficits, headache, uveitis or seizures.

This case was unusual and a diagnostic challenge. The patient presented with no systemic signs of lymphoma, such as fever, lymphadenopathy or hypersplenism. Radiological investigations revealed no primary or secondary metastatic spread from systemic lymphoma. The patient was considered to be in remission. The patient's only symptom was a new onset of seizures. She denied any focal or generalized symptoms. Cerebral spread of Hodgkin's lymphoma is rare, particularly without positive systemic lymphoid involvement. Moreover, lymphoma is included in differential diagnosis of periventricular brain tumours, whilst diffuse dural enhancement is unusual.

In the reported literature, rare cases of intracranial metastatic Hodgkin's lymphoma have been documented, including metastatic lymphoma to the skull, temporal bone and intracranial metastatic nodular sclerosing Hodgkin's disease without dural attachment.<sup>1,2</sup> In this case, we describe a novel case of a secondary intracranial lymphoma deposit with dural infiltration. This diagnosis should be considered in patients with a previous history of Hodgkin's lymphoma.

## References

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