

Cerebral lymphoma mimicking glioblastoma in an AIDS patient

Linfoma cerebral que imita o glioblastoma em um paciente com AIDS

DOI:10.34119/bjhrv5n2-226

Recebimento dos originais: 27/01/2022

Aceitação para publicação: 25/02/2022

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ABSTRACT

A 42-year-old male, HIV (human immunodeficiency virus) positive for 13 years, but without use of antiviral therapy, presented weight loss of 6 kg and erythematous-purplish lesions in the right buttock. Biopsy was showed cutaneous diffuse large B-cell lymphoma. The patient received antiretroviral therapy and six cycles of chemotherapy achieving complete remission. After 5 years, the patient presented progressive headache with an episode of loss of balance

with fall and mental confusion. Brain magnetic resonance imaging (MRI) showed a mass lesion in the periventricular region, involving the splenium of the corpus callosum with restricted diffusion. The brain images were consistent with glioblastoma (GBM) or DLBCL (diffuse large B-cell lymphoma). The hypoperfusion of the lesion on MRI was of fundamental importance for the differential diagnosis, favouring the diagnosis of DLBCL.

Keywords: primary cutaneous lymphoma, dissemination to the central nervous system of cutaneous lymphoma, glioblastoma, magnetic resonance imaging.

RESUMO

Um homem de 42 anos de idade, HIV (vírus da imunodeficiência humana) positivo por 13 anos, mas sem uso de terapia antiviral, apresentou perda de peso de 6 kg e lesões eritematosas-purpúreas na nádega direita. A biópsia mostrou linfoma cutâneo difuso de grandes células B. O paciente recebeu terapia anti-retroviral e seis ciclos de quimioterapia, obtendo remissão completa. Após 5 anos, o paciente apresentou dor de cabeça progressiva com um episódio de perda de equilíbrio com queda e confusão mental. A ressonância magnética cerebral (RM) mostrou uma lesão de massa na região periventricular, envolvendo o esplênium do corpo caloso com difusão restrita. As imagens do cérebro eram consistentes com glioblastoma (GBM) ou DLBCL (linfoma difuso de grandes células B). A hipoperfusão da lesão na RM foi de fundamental importância para o diagnóstico diferencial, favorecendo o diagnóstico de DLBCL.

Palavras-chave: linfoma cutâneo primário, disseminação ao sistema nervoso central de linfoma cutâneo, glioblastoma, ressonância magnética.

1 INTRODUCTION

A 42-year-old male, HIV (human immunodeficiency virus) positive for 13 years, but without use of antiretroviral therapy, presented with weight loss of 6 kg and erythematous-purplish lesions in the right buttock; the lesions showed irregular borders and slight bulging. A biopsy revealed a cutaneous diffuse large B-cell lymphoma (DLBCL). The patient received antiretroviral therapy and six cycles of chemotherapy that resulted in complete remission, as confirmed by positron-emission tomography/ computed tomography (PET-CT). Two years later, after developing a progressive headache with an episode of loss of balance and a fall, in addition to mental confusion, the patient underwent magnetic resonance imaging (MRI) of the brain (Figure 1) and a tumor biopsy that led to a diagnosis of DLBCL (Figure 2). The patient was treated with cytarabine and high doses of methotrexate. He subsequently developed septic shock with a poor general condition and died shortly thereafter.

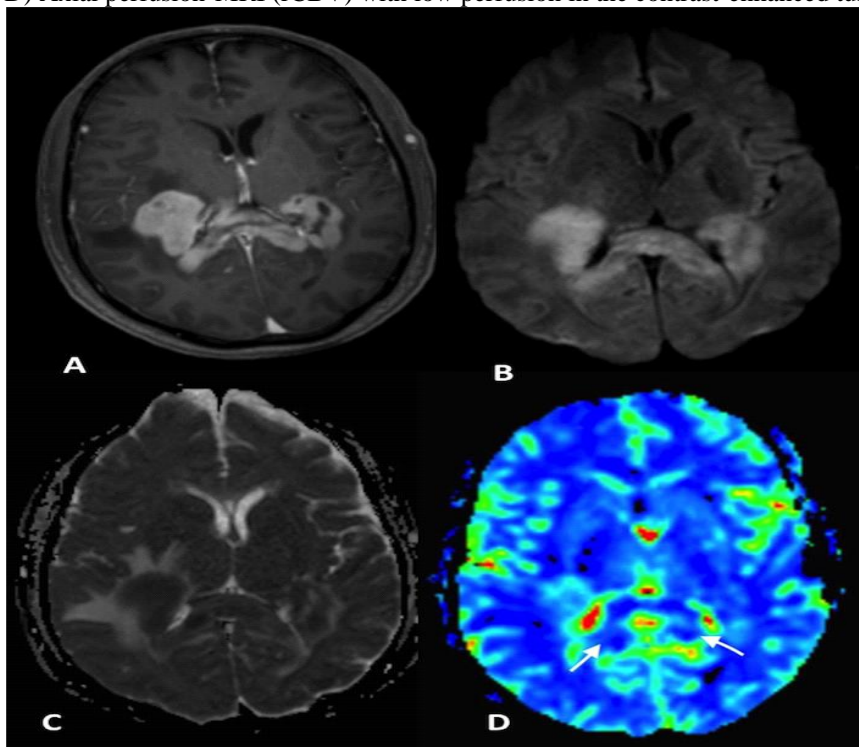
Primary cutaneous DLBCL most often affects the legs, older people and women^{1,2,3}. Atypical forms of the disease being observed in immunosuppressed patients^{2,3}. In these patients, relapse after treatment is common and there is often extracutaneous metastasis⁴. In some cases, the central nervous system may be affected¹ and the corpus callosum is affected

with a certain frequency^{5,6,7}, however lesions may occur in other sites such as the hypophysis, cavernous sinus⁸, hypothalamus, pineal gland, and posterior fossa⁹. Meningeal involvement is more commonly found in secondary lymphomas⁵ or in immunocompromised patients. Additionally, the pattern of dural/pachymeningeal lesions may be similar to that of meningiomas^{5,10}.

MRI showed that in the present case the lesion mimicked a glioblastoma. Tumors are exhibit relatively high signal intensity and restricted diffusion^{5,6,7,11}, which is common in CNS lymphoma¹² and GBM (except in necrotic areas). In general, the detection of hypoperfusion on MRI, as observed in this case, is fundamental for the accurate preoperative diagnosis of lymphoma^{2,6,7,13,14,15,16}.

The elevated risk for many cancers, especially after the onset of acquired immunodeficiency syndrome, highlights the contribution of immunosuppression to the frequency of cancer in this population, although a decline in this frequency has been observed with adequate modern antiretroviral therapy¹⁷.

Figure 1. Magnetic resonance imaging (MRI). A) Axial T1 weighted after gadolinium showing an expansive lesion crossing the midline via the splenium of the corpus callosum, with heterogeneous enhancement. This pattern results in a characteristic “butterfly appearance” and represents a symmetric wing-like extension across the midline, usually observed in glioblastoma. B) Axial DWI with restricted diffusion in the tumor and a low signal on the ADC map (C). D) Axial perfusion-MRI (rCBV) with low perfusion in the contrast-enhanced tumor (arrows).



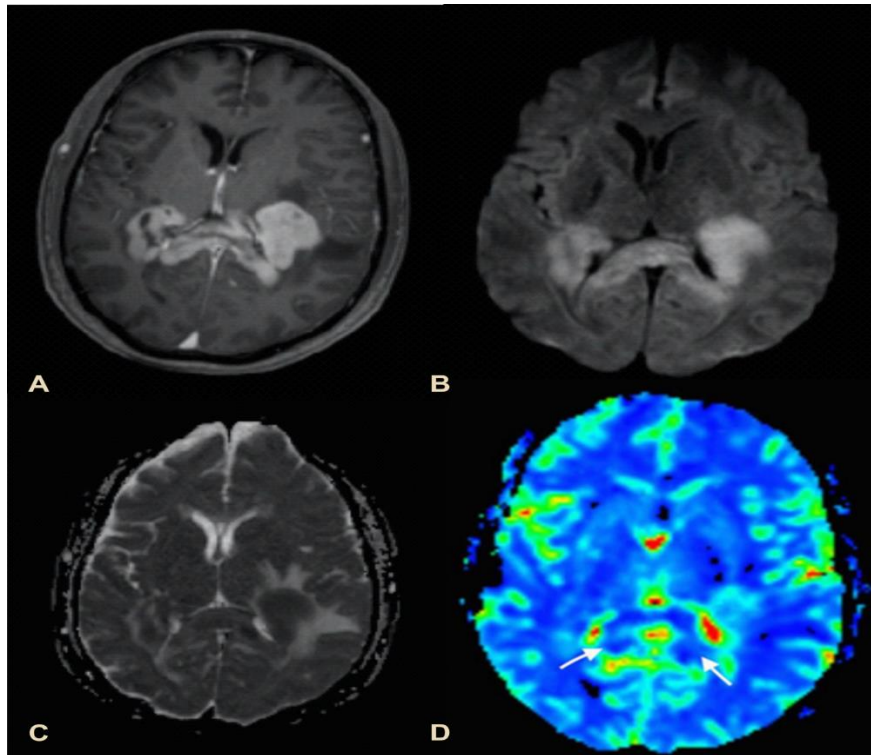
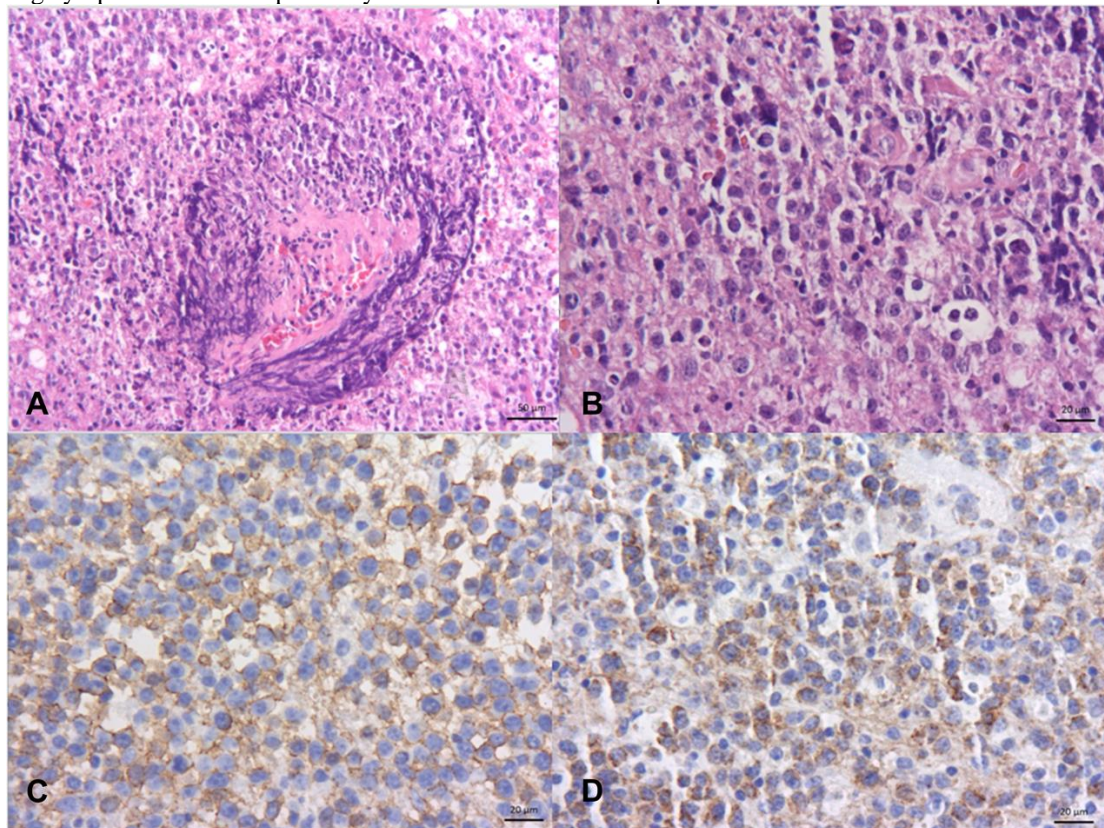


Figure 2. Histochemical analysis of tumor tissue. A) Angiocentric arrangement of tumor cells. H&E. Scale bar: 50 μ m. B) Large lymphoid tumor cells showing either peripheral nucleoli or isolated central nucleoli. H&E. Scale bar: 20 μ m. C) Tumor cells immunostained for CD20 (membrane pattern). Scale bar: 20 μ m. D) Tumor cells showing cytoplasmic immunopositivity for CD79a. Scale bar: 20 μ m.



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