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# Leukocytoclastic vasculitis and desensitization to high-dose methotrexate in primary central nervous system lymphoma

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## Abstract

The backbone drug in the management of primary central nervous system lymphoma (PCNSL) is systemic high-dose methotrexate (HD MTX). This case report describes a previously healthy 56-year old man diagnosed with PCNSL who developed a severe leucocytoclastic vasculitis that was clinically consistent with HD MTX toxicity. He was given a premedication regimen along with a desensitization protocol for HD MTX that permitted the administration of additional cycles of HD MTX without further serious adverse events. Ultimately, this case report highlights that it is possible to rechallenge patients with severe leucocytoclastic vasculitis with HD MTX provided that treatment modifications are introduced.

Keywords: leukocytoclastic vasculitis; high-dose methotrexate; lymphoma; hypersensitivity

## Introduction

Primary central nervous system lymphoma (PCNSL) accounts for less than 3% of all central nervous system tumors (1). The activity of systemic high-dose methotrexate (HD MTX) in PCNSL has been established since the late 1970s, and it remains the backbone of many treatment regimens to date (2–5). Further studies have demonstrated that receipt of HD MTX is a robust treatment-related prognostic factor associated with overall survival in PCNSL (6). In this paper, we report the case of a patient who responded to an HD MTX-based regimen, but developed severe adverse events that warranted treatment modifications to allow further safe HD MTX administration.

## Case report

A previously healthy 56-year old man developed progressive right-sided hemiparesis and mild disequilibrium over a month. He did not complain of B symptoms and had an otherwise good performance status. Physical examination was significant for right-sided motor weakness involving the upper and lower limbs, and a positive Babinski sign on the right. There was minor right hand incoordination and gait instability. Gadolinium-enhanced MRI of the brain revealed two enhancing homogenous intra-axial masses with minor necrosis, one along the left cerebellum measuring 2.2 x 1.7 cm with significant surrounding vasogenic edema with mild mass effect over the fourth ventricle, as well as another along the left basal ganglia measuring 2.2 x 1.9 cm also with adjacent edema involving the corona radiatata with extension to the medial temporal lobe.