Introduction

The underlying mechanism of transient headache and neurological deficits with cerebrospinal fluid lymphocytosis (HaNDL), as defined by the International Classification of Headache Disorders [1], is not established [2]. Headache is usually mandatory for the diagnosis. We report a case mimicking HaNDL where acute multimodal MRI including PWI provided critical information.

Case Report

A 44-year-old right-handed man, with no history of migraine or cardiovascular risk factors, developed acute numbness and weakness involving the right leg and ascending to the right arm and the face, with aphasia and right homonymous hemianopsia. The symptoms cleared within 8 h.

Cerebral MR imaging performed 2 h after the onset of symptoms – including $T_2$ diffusion-weighted fluid-attenuated inversion recovery (FLAIR) images, MR angiograms (time of flight: cerebral and cervical) and perfusion analysis (time to peak map, cerebral blood volume, cerebral blood flow) – revealed a global left-hemispherical hypoperfusion. The mean time-to-peak delay in the affected hemisphere versus the contralateral side was 2.5 s. The cerebral blood flow ratio was 0.71.

There was no clinical or laboratory evidence of a systemic infection. CSF analysis revealed mononuclear pleocytosis (91% lymphocytes, 9% monocytes) with 340 cells/mm$^3$, glucose level of 3 mmol/l and protein level of 2 g/l. Specific biological tests ruled out any infectious, immunological, metabolic or prothrombotic condition. An exhaustive neurovascular workup failed to detect any arterial or cardiac source of ischemic stroke. Hemodynamic abnormalities cleared on day 2 after MRI.

Electroencephalography at day 2 showed a non-epileptiform focal slowing on the left hemisphere, which persisted for 1 week after onset. Two months later, the EEG was normal, whereas CSF showed lymphocytic pleocytosis (65 cells/mm$^3$, 98% lymphocytes) and a raised protein level (0.54 g/l).

He resumed his previous activities 2 weeks later. No recurrence was observed after a follow-up of 15 months.

Discussion

HaNDL, also called pseudomigraine with temporary symptoms and pleocytosis [3, 4], is characterized by transient neurological symptoms and CSF pleocytosis, and associated with

A.-E.V. and V.D. contributed equally to this work.
non-epileptiform EEG changes, raised CSF proteins and a self-limited benign course with complete recovery. Headache is usually mandatory for the diagnosis; in this way, this case mimicks HaNDL.

The lack of personal and familial history of migraine as well as the absence of headache is not consistent with a migraine [1]. HaNDL with mild headache has been described [5].

In line with previous SPECT [7, 4, 6, 8] and transcranial Doppler sonography studies [9], cerebral vasomotor changes were observed as described in migraine with aura [10]. Multimodal stroke MRI may provide useful information in ruling out arterial thrombosis, vasospasm or ischemic damage. Acute hemodynamic changes suggest an unstable arteriolar vasoreactivity. Although the underlying mechanism remains speculative, a meningo-neuronal transitory dysfunction due to an acute inflammatory disorder may be suspected [4].

References


Norbert Nighoghossian
Hôpital Neurologique Pierre Wertheimer
59, Boulevard Pinel
FR–69777 Bron (France)
Tel. +33 47 235 7810, Fax +33 47 235 7329
E-Mail norbert.nighoghossian@chu-lyon.fr