ELSEVIER

European Journal of Radiology Extra 63 (2007) 57–60

EUROPEAN JOURNAL OF RADIOLOGY EXTRA

http://intl.elsevierhealth.com/journals/ejrex

Postherpetic multifocal long-segment myelitis responsive to intravenous immunoglobulin and steroid therapy

Lu-An Chen [a], Chih-Min Hu [a], Peterus Thajeb [a,b,c,*]

[a] *Department of Neurology, Mackay Memorial Hospital, Taipei, Taiwan, ROC*
[b] *National Yang-Ming University School of Medicine, Taipei, Taiwan, ROC*
[c] *Taipei Medical University, Taipei, Taiwan, ROC*

Received 1 May 2007; accepted 15 May 2007

Abstract

Acute disseminated myelitis (ADM) may occur following a viral infection or vaccination. We herein report a 31-year-old lady who develop an acute rapidly progressive paraplegia and atonic bladder associated with seroconversion of herpes simplex virus type 2. Magnetic resonance imaging (MRI) of the spinal cord shows multifocal long-segment myelopathy involving the cervical cord from C2 segment to thoracic cord T2 segment, and the lumbosacral cord at the conus medullaris. She had partial clinical response to intravenous dexamethasone. Intravenous immunoglobulin yielded a dramatic clinical improvement. The patient was ambulatory without any voiding difficulty 3 months after the onset. Findings on follow-up MRI correlated to her clinical improvements.

Keywords: Acute disseminated encephalomyelitis (ADEM); Myelitis; Herpes simplex virus; Intravenous immunoglobulin; Steroid

1. Introduction

Acute disseminated encephalomyelitis (ADEM) is an acute monophasic immune-mediated inflammatory disorder with multifocal demyelination affecting predominantly the central nervous system (CNS) and to a lesser degree, the peripheral nervous system (PNS). It may occur following a febrile illness for days or weeks (more often in children), or following exanthem of measles, rubella, smallpox, chickenpox, or a respiratory infection with Epstein–Barr virus, cytomegalovirus, mycoplasma, or after a vaccination [1]. ADEM has been known as "steroid responsive post-infectious demyelination" in children and adolescent [2,3]. We herein report a 31-year-old lady who had rapidly progressive acute disseminated myelitis (ADM) that responded partially to steroid therapy and dramatically to short-term intravenous immunoglobulin (IVIg). Serial MRIs showed temporal profiles of the lesions with gradual resolution of the multifocal long-segment myelitis.

2. Case report

A 31-year-old lady presented a febrile illness with acute paraplegia and voiding difficulty that were not accompanied by a prodrome of flu-like symptom and precedent vaccination. Serial neurological examinations and laboratory studies showed rapidly deteriorating paraplegia with declining muscle power from 4/5 in all limbs at onset, to 2/5 in bilateral lower limbs and 3/5 in both upper limbs on the next day. Voiding difficulty with urine retention (>1000 ml of residual urine) suggested an atonic bladder that was later confirmed by urodynamic studies. The cognitive functions, cranial nerve examinations, and cerebellar tests were unremarkable.

The cerebrospinal fluid (CSF) studies showed lymphocytic pleocytosis and elevated CSF protein. CSF oligoclonal band and CSF culture for microorganisms were negative. Paired CSF and serum analysis of the acute and convalescent titers of herpes simplex viral (HSV) type 2 IgG antibod-

* Corresponding author at: National Yang-Ming University School of Medicine, P.O. Box Nei-hu 6-30, Taipei 11499, Taiwan, ROC.
Tel.: +886 2 25433535; fax: +886 2 25433642.
E-mail address: thajebp@hotmail.com (P. Thajeb).

1571-4675/$ – see front matter © 2007 Elsevier Ireland Ltd. All rights reserved.
doi:10.1016/j.ejrex.2007.05.008

ies showed significant seroconversion of HSV-II IgG titer of greater than four-fold. Hematogram, erythrocyte sedimentation rate, and C-reactive protein were normal. Blood tests were negative for antinuclear antibody (ANA), anticardiolipin antibodies, anti-SSA, anti-SSB, rheumatoid factor, and anti-double stranded-DNA antibody. Plasma levels of C3 and C4 were decreased. Magnetic motor evoked potential and somatosensory evoked potential studies of all limbs suggested an impairment of both the descending corticomotor neuronal pathways and the ascending somatosensory pathways, respectively. Spinal cord MRI showed long-segment hyperintense lesions on T2WI and slightly hypointense

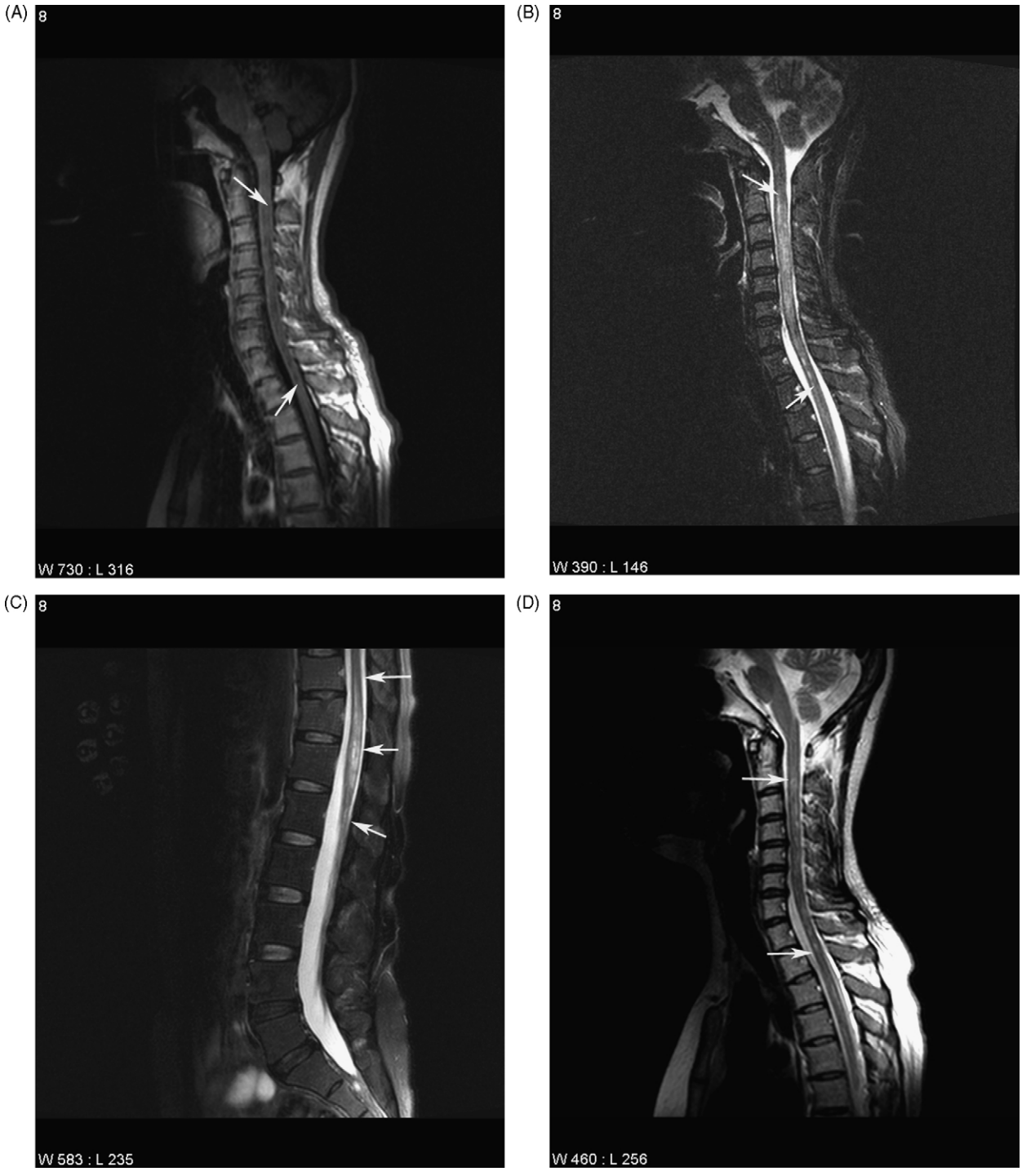

Fig. 1. Magnetic resonance images of a 31-year-old lady with rapidly progressive acute disseminated myelitis (A–C, before treatment) show partial resolution of the long-segment demyelinating lesions 3 months after (D) short-term intravenous immunoglobulin and steroid therapy. Cervical cord MRI (A, B, and D) and lumbosacral cord (C). T1-weighted images (A) and T2-weighted images (B–D).