FROM RECURRENT PERIPHERAL FACIAL PALSY TO MULTIPLE SCLEROSIS

Mira Ivanković[1] and Vida Demarin[2]

[1]Department of Neurology, Dubrovnik General Hospital, Dubrovnik; [2]University Department of Neurology, Sestre milosrdnice University Hospital Center, Zagreb, Croatia

SUMMARY – Peripheral facial palsy is a clinical entity, which may be presented as the first symptom of multiple sclerosis (MS). Although MS is mostly a multifocal chronic inflammation of the central nervous system, peripheral nervous system can also be involved. Isolated cranial nerve palsies are rare and occur in 1.6% of MS patients. In this report, a case is presented of a 35-year-old woman who developed isolated seventh nerve palsy that was misdiagnosed as Bell's palsy. Despite recurrent peripheral facial palsy, positive cerebrospinal fluid finding and magnetic resonance imaging, the diagnosis of MS could only be confirmed when the patient developed other neurologic symptoms and when the criteria for dissemination in space were satisfied. In clinical presentation, the patient had only cranial nerve involvement, with complete recovery.

Key words: *Multiple sclerosis; Facial paralysis; Dissemnitaion; Remission*

Introduction

Multiple sclerosis (MS) is a chronic autoimmune disease that begins most commonly in young adults and is characterized by multiple areas of central nervous system (CNS) white matter inflammation, demyelination, and glial scarring (sclerosis)[1]. Several studies demonstrated peripheral nervous system involvement in a subgroup of patients[2,3]. MS may be presented with many different neurologic manifestations and the symptoms vary according to the CNS area involved[1]. Although brainstem involvement occurs as a presenting feature of MS in up to 15% of cases[4], isolated cranial nerve palsies are rare, recorded in 1.6% of MS patients[5]. In MS patients with isolated cranial nerve palsies, magnetic resonance imaging (MRI) is the most sensitive method of documenting dissemination in space[5]. The prevalence of facial palsy in MS patients has been estimated to 2.6%-52% and the prevalence of facial palsy as the first MS symptom to 1%-4.8%[6]. Isolated sixth nerve palsy is also rare as a presenting sign of MS and trigeminal sensory neuralgia during the course of disease is reported in only 1.9% of cases[4,7,8].

Case Report

A 35-year-old female developed a purely right sided facial palsy with no sensory abnormalities and no other neurologic findings. Audiology examination showed pure tone audiogram, impedance audiometry and electroneurography (ENG) were normal, so she was suspected of having the most common benign idiopathic facial palsy known as Bell's palsy. Oral corticosteroid treatment and physical therapy led to complete recovery without any residua.

One year later, facial palsy recurrence on the same side raised suspicion that the first diagnosis was incorrect. Despite normal neurologic status and EDSS 0, more extensive diagnostic work-up was undertaken. Brain and cervical spine MRI showed the presence of

Correspondence to: *Mira Ivanković, MD*, Department of Neurology, Dubrovnik General Hospital, Mihajla Hamzića 1, HR-20000 Dubrovnik, Croatia
E-mail: mirai@bolnica-du.hr

Received March 10, 2010, accepted October 24, 2011

multiple high-signal intensity areas on T2-weighted images. The white matter lesions were disseminated in the supra- and infratentorial region of the brain (periventricular, corpus callosum, pons, cerebellum). They were specific for demyelination. The patient had an abnormal cerebrospinal fluid (CSF) finding: mild pleocytosis revealing mostly lymphocytes, normal proteins, intrathecal synthesis of immunoglobulins, especially of the IgG type. Oligoclonal bands were detected at pH 7.5-9.0. Other CSF tests for CMV and EBV were normal, and so was the level of *Borrelia burgdorferi* antibodies. Other neurologic diseases were excluded, CSF and serum were tested for syphilis, human immunodeficiency virus (HIV), hepatitis B and C, and serum was analyzed for systemic inflammatory diseases (ANA, ENA, ANCA, RF, aCL, IgG, aCL, IgM), sarcoidosis (ACE), vitamin B12 and folic acid deficiency, and thyroid hormones. Visual evoked potentials were also normal. Despite positive CSF and MRI, our patient did not have clinical dissemination in space, so the diagnosis of MS was not definitive.

Ten months later, the patient had another relapse, a transient left sided lesion of the abducens nerve lasting for about one month and resolved completely after pulse corticosteroid therapy. Clinical dissemination in space was present, so primary demyelination could be diagnosed. EDSS was 0 and interferon therapy was suggested.

After 15 months, trigeminal sensory neuropathy affected the second and third division of the right trigeminal nerve. Recovery was complete, pulse corticosteroid therapy was applied and the patient had no more relapses.

Discussion

We present a young female whose illness started with recurrent facial palsy. At the beginning, she was considered to have a more benign Bell's palsy, but the relapse raised suspicion of the possible more serious disease, MS, which is rarely presented with facial palsy as the first symptom. Diagnostic work-up included MRI, CSF analysis and tests to exclude other neurologic disorders. The diagnosis was confirmed upon demonstration of dissemination in space and when the symptoms of the sixth cranial nerve appeared. In clinical presentation, the patient had only cranial nerve involvement (VII, VI and V) and remission was complete. She was treated with pulse corticosteroid therapy and later with interferon; now her neurologic status is normal, without any new lesions on MRI.

Conclusion

Multiple sclerosis can mimic other more benign conditions and need for clinicians to carefully examine patients presenting with new neurologic abnormalities[9]. Facial palsy is rarely ascribed to MS as the first symptom, but specialists should consider MS as the reason of facial palsy[10]. The diagnosis of MS relies on demonstration of the disease dissemination in space and time but exclusion of other neurologic disorders is also essential[11]. Prompt diagnosis and early treatment may reduce morbidity associated with this common neurologic condition and a high index of suspicion needs to be maintained to avoid misdiagnosis[4].

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Sažetak

OD PONAVLJAJUĆE PERIFERNE FACIJALNE PAREZE DO MULTIPLE SKLEROZE

M. Ivanković i *V. Demarin*

Periferna facijalna pareza je klinički entitet koji se može pojaviti kao prvi simptom multiple skleroze. Iako je multipla skleroza većinom bolest središnjega živčanog sustava, periferni živčani sustav također može biti zahvaćen. Izolirana lezija kranijskih živaca je rijetka i javlja se u 1,6% bolesnika s multiplom sklerozom. Prikazan je slučaj 35-godišnje bolesnice s perifernom facijalnom parezom koja je dijagnosticirana kao idiopatska Bellova paraliza. Unatoč recidivu periferne facijalne pareze, pozitivnom nalazu cerebrospinalnog likvora i magnetske rezonance dijagnoza multiple skleroze je mogla biti potvrđena tek kada su kod bolesnice nastupili drugi neurološki simptomi koji su zadovoljili kriterije prostorne distribucije. Bolesnica se klinički prezentirala isključivo lezijom kranijskih živaca uz potpun oporavak.

Ključne riječi: *Multipla skleroza; Facijalna pareza; Disemniacija; Remisija*