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Authors Svetlana Miletić-Drakulić*, Dejan Zoran Aleksić* Vojnosanitetski pregled (2019); Online First March, 2019.

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UNUSUAL CASE REPORTS OF RECURRENT PAINFUL OPHTHALMOPLEGIC NEUROPATHY: THE PATIENT FROM ROMANY POPULATION AND THE 82-YEAR-OLD PATIENT

Svetlana Miletić-Drakulić*, Dejan Zoran Aleksić*

*University of Kragujevac, Serbia, Faculty of Medical Sciences, Department of Neurology

**Correspondence to:** Dejan Zoran Aleksić, MD, University of Kragujevac, Serbia, Faculty of Medical Sciences, Department of Neurology

Klinika za neurologiju, Klinički centar Kragujevac, Zmaj Jovina 30, 34000 Kragujevac, Phone number +381642287184, Fax number: +38134370166,

email: drdeal1987@gmail.com
Abstract

Introduction. The current diagnostic criteria for recurrent painful ophthalmoplegic neuropathy (RPON) are at least two attacks of unilateral headache, associated with ipsilateral paresis of one, two or all three cranial nerves (III, IV or VI). There is no case report about RPON in Romany population. The oldest patient with RPON, published in the literature, was 74 years old. Case report. The first patient is a case of 31-year-old man from Romany population who was treated during three episodes of RPON, with III nerve palsy during one episode and with alternating VI nerve palsy during two episodes. All examination were normal except serum lipid levels and Cytomegalovirus Immunoglobulin G (CMV IgG), Toxoplasma gondii IgG, Epstein-Barr virus (EV) IgG and Varicella zoster IgG which were elevated. The second patient is 82-year-old male patient with two RPON episodes with alternating VI nerve palsy. All examinations were normal, except Herpes simplex type 1 virus IgG, CMV IgG, Toxoplasma gondii IgG, EBV IgG and Varicella zoster IgG which were elevated and on the brain MRI he has lacunar ischemic lesions. Both patients were started on corticosteroid. Recovery was completed after all five episodes of RPON. Conclusion. There are no data on the frequency of RPON among the Romany population. The presentation of RPON in the oldest age is rare. RPON should be considered as a diagnostic option in these minorities. New case reports or systematic review articles about RPON are necessary to create a new insight into the nature of the disease.

Key words:
Neuropathy, headache, romany population, elderly.

Abstrakt

Introduction

Recurrent painful ophthalmoplegic neuropathy (RPON) is a new concept from the third edition of the International Classification of Headache Disorders (ICHD-3) and classified under the category of painful cranial neuropathies and other facial pains (1) which according to previous classification from 2004 marked as ophthalmoplegic migraine (OM) and classified under the category of cranial neuralgias. (2)

The current diagnostic criteria for RPON are at least two attacks of unilateral headache, associated with ipsilateral paresis of one, two or all three cranial nerves (III, IV or VI). Orbital and parasellar and posterior fossa pathological lesions must be excluded by appropriate diagnostic techniques and without better accounted for by another ICHD-3 diagnosis (1).

There is no case report about RPON in Romany population. There is only one study about prevalence of migraine and risk factor for migraine in Romany population from Spain. Prevalence of migranes is greater in the Romany living in Spain than in the general Spanish population (3).

The oldest patient with RPON, published in the literature so far, was 74 years old (4). RPON is diagnosis of exclusion. Possible dilemma that should not be overlooked is Tolosa-Hunt syndrome. Diagnostic criteria for Tolosa-Hunt syndrome are granulomatous inflammation of the cavernous sinus, superior orbital fissure or orbit, demonstrated by MRI or biopsy (5). Other diagnostic dilemmas are orbital myositis, neoplastic disease, vascular disease, brain stem ischemia, mass or multiple sclerosis lesion, diabetic palsy, traumatic nerve palsy, infection, myasthenia gravis, Miller Fisher syndrome, chronic inflammatory demyelinating polyneuropathy (CIDP), idiopathic intracranial hypertension or hypotension, thyroid ophthalmopathy, orbital mass, narrow angle glaucoma, Wegener's granulomatosis, vincristine therapy. (1, 6, 7, 8, 9, 10, 11)

The RPON is a rare entity whose pathophysiology is unknown and for which no therapeutic recommendations are available (11).

Case report 1.

A 31-year-old man from Romany population was admitted to the our Clinic of Neurology, during the third RPON episode which began in 2014, as left side periorbital headache, 7/10 in intensity, pulsating in character, associated with nausea. A few hours after he developed left sided VI cranial nerve palsy and diplopia. He was started on prednisolone 120 mg for 10 days, after that 80 mg for 10 days, 60 mg for 10 days. The second day of disease headache intensity was reduced. At the discharge the patient was without headache and with mild recovery of the mobility of the eyeball. After 3 months of the onset of symptoms patients was completely recovered.

During hospitalization his general examination was normal. Nervous system examination showed left sided VI nerve palsy. All laboratory results were normal except serum lipid levels which were high. Blood glucose level and HbA1c lever were normal. Immunological analysis, thyroid hormones and antibodies to thyroid hormones were normal. Virological, bacteriological
and parasitological analyses were normal. Brain MRI with contrast, MR angiography of the brain arteries, chest X-ray and visually evoked potentials (VEP)-all were normal. We excluded neuromuscular junction disorders by prostigmine test. CSF analysis was normal (cell counts, protein, glucose levels, IgG index).

The first episode occurred in 2010 with right-sided headache, 8/10 in intensity, nausea, vomiting, photophobia and diplopia. On neurological examination he had isolated right sixth nerve palsy. We applied corticosteroide therapy. The headache lasted 6 months, while the double vision were present 7 months after onset of symptoms. All results were normal.

The second episode occurred in 2013 with right-sided occipital headache, 9/10 in intensity, nausea and vomiting. A few days later he developed diplopia. On neurological examination he had isolated right third nerve palsy. During hospitalization he developed right ptosis. The reaction of the pupil to light and accommodation were normal bilaterally. Headache was stopped within 3 days from administration of therapy (corticosteroide) while the diplopia lasted for about 2 months. All results were normal.

Before the onset of the RPON the patient was healthy and he had never suffered from headaches.

Case report 2.

An 82-year-old male patient was admitted in our Clinic during the second RPON episode which began in 2017 with a pain in the depth of the right eye and diplopia. Seven days later, he developed the right n.VI paralysis, and other neurological findings were normal. Increased cholesterol levels were found in laboratory analyses. Blood glucose level and HbA1c lever were normal. Immunological analysis, thyroid hormones and antibodies to thyroid hormones were normal. Virological, bacteriological and parasitological analyses were normal. The test for diplopia showed a diplopia in the direction of left lateral rectus muscle. The ophthalmologic examination showed the initial cataract. Lacunar ischemic lesions in white matter of parieto-occipital region on brain MRI were seen. MR angiography of the brain arteries, visually evoked potentials (VEP), echo tomography of the orbits, eye pressure, and Doppler ultrasonography of the blood vessels of the neck-all were normal. We excluded neuromuscular junction disorders by prostigmine test. We applied dexamethasone for 7 days and acetylsalicylic acid. Ophthalmological rehabilitation was conducted. Three months later there was a complete recovery. A diagnosis of RPON was made.

The first episode of RPON occurred in 2015 due to left side orbital pain, 6/10 in intensity, nausea and diplopia. In the neurological examination he had isolated left n.VI palsy. The same therapy was administered. After 3 months of the onset of symptoms patients was completely recovered.

Before the onset of the RPON the patient was healthy and he had never suffered from headaches.

Discussion

RPON is a very rare disease, with an incidence of 0.7 per million (12). The incidence of the RPON is two times higher in female, according to some studies (4,13,14), whereas in a case series ratio of men to women is approximately 1: 1. (15)

The side of headache and nerve palsy is the same in the largest number of cases during different attacks of RPON (14), while the change of side is very rare, and Gelfand found only two cases in
their series of 84 patients. (4) Alternating side of VI nerve palsy during different RPON episodes was described in a few cases (15,16) like alternating side of III nerve palsy. (15) Only 1-6.5% of patient had symptoms on different side in two different attacks like our first patient. (4,15) The most of patients (up to 94%) had normal CSF findings (4) and only few had nonspecific CSF abnormalities. (15) Brain MRI in 75% of patients with the III nerve palsy shows the accumulation of gadolinium in the area of the affected nerve during the attack of the disease, but in the remaining cases brain MRI is normal. (4,6,7,8,14,15,17) Our second patients has VI nerve palsy in two episodes of RPON, on different side, without changes on brain MRI. Brain MRI (7,15,17,17) and brain SPECT (18) showed no lesions in the most patients with VI nerve palsy, although there were cases presented with the enhancement of intraparenchymal and cisternal part of VI nerve. (9,18). In our patients, after three and two attacks of RPON, the symptoms resolved completely in a period of several weeks to several months, such as the recently published case of RPON. (19) Work with recurrent Tolosa-Hunt syndrome in patients with and without granulomatous changes in brain MRI has been published, recently. (5) Since, it is virtually impossible to distinguish patients with recurrent Tolosa-Hunt syndrome without a change in brain MRI from patients with RPON, and at a time when biopsy is practically very rarely performed and in the era of modern high-quality neuroradiology diagnostics, brain MRI remains a key factor for diagnosis of RPON and Tolosa-Hunt syndrome. It is extremely important to strictly followto brain MRI criteria for diagnosis of Tolosa-Hunt syndrome (are granulomatous inflammation of the cavernous sinus, superior orbital fissure or orbit, demonstrated by brain MRI or biopsy) and the brain MRI criteria for RPON (orbital and parasellar and posterior fossa pathological lesions must be excluded by appropriate diagnostic techniques). An excellent response to corticosteroid therapy for RPON and Tolosa-Hunt syndrome patients eliminates the therapeutic dilemma. New case reports or systematic review articles about RPON are necessary to create a new insight into the nature of the disease. Due to the excellent response to corticosteroid therapy in RPON and Tolosa-Hunt syndrome and due to the same differential diagnosis, we consider that the detailed examination should be conducted in all patients with suspicion on RPON/Tolosa-Hunt and corticosteroid therapy should be administered. Also, it is necessary to make a more detailed distinction between the definitions of a clinical picture between these two diseases in new headache classification.

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