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Case Report

Association of Multiple Sclerosis and Uveitis

Cansu Söylemez, Ufuk Emre, Yüksel Erdal, Kübra Avcı Gülen, Şirin Saçak

Abstract

In patients with multiple sclerosis (MS), it is important to keep in mind the examination and follow-up of uveitis table which are less frequent in optic neuropathy and may require different treatment approaches. In the present study, we wanted to draw attention to the uncommon MS and uveitis association by presenting two cases of uveitis and MS.

Keywords: Multiple sclerosis, Uveitis, Interferon

Introduction

It is known that many autoimmune and inflammatory diseases coexist in cases with multiple sclerosis (MS), and they are important for the differential diagnosis of the disease. Ocular inflammatory disease also has an important role among these diseases. The frequency of uveitis, which is an ocular inflammatory disease, has been reported to be between 0.4% and 26.9% in patients with MS (1, 2). The aim of this case report was to present two cases who were diagnosed with uveitis and considered to have MS according to the findings of imaging and cerebrospinal fluid (CSF) and clinical evaluation and to draw attention to the coexistence of MS and uveitis.

Case Reports

Case Report 1

A 33-year-old female patient was admitted to the outpatient neurology clinic with a complaint of numbness in the hands and feet. No abnormality, except joint pains and bilateral uveitis attack that occurred 10 years ago, was detected in her medical history. Her physical examination was normal, and neurological examination was normal except for Lhermitte's sign and impaired vibration sense. On ophthalmic consultation, no finding except uveitis-associated sequela changes was detected. Cranial magnetic resonance imaging (MRI) revealed 3-4 multiple plaques displaying supratentorial nodular contrast enhancement and one infratentorial demyelinating plaque (Figure 1a-c). On control examination, cervical MRI found a demyelinating plaque consistent with MS (Figure 2). She was evaluated for Behçet's disease, sarcoidosis, and other causes of vasculitis. No pathological finding was found. Neuromyelitis Optica (NMO) antibody was negative. CSF analysis was normal. Tibial somatosensory evoked potential and visual evoked potential (VEP) analyses were normal. The patient was referred to the Department of Rheumatology and underwent clinical and radiological follow-up. CSF analysis performed in an external center during clinical follow-up revealed a positive oligoclonal band (OCB). Immunomodulator therapy (interferon I.44 µg, 3×per week) was started. Verbal informed consent was obtained from the patient who participate in this case report.

Care Report 2

A 41-year-old male patient was admitted to our clinic with complaints of numbness in the right arm and leg and weakness on the left arm, which developed 20 days before admission to the hospital. On cranial and cervical MRI examination, a demyelinating focus with high signal in T2 FLAIR and T2A, beginning from the posterior part of the external capsule in the right temporal lobe and displaying periventricular extension to the lateral part of the right temporal horn of the ventricle, was observed (Figure 3). Moreover, peripheral, ring-like, longitudinally extensive expansile lesions with contrast enhancement, which were hyperintense in T2A and mildly hypointense in T1A, were observed in the left half of the spinal cord at the C3-C4 level (Figure 4a-b). The patient was hospitalized in the clinic due to the prediagnosis of demyelinating disease. He had a medical history of chronic bronchitis and smoking. No abnormality was

ORCID ID of the authors: C.S. 0000-0002-5378-5038; U.E. 0000-0002-1650-3935

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Department of Neurology, İstanbul Training and Research Hospital, İstanbul, Türkiye

Corresponding Author:
Cansu Söylemez
E-mail: kalan_16@hotmail.com

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found on physical examination. On neurological examination, he pathologically had monoparesis on his left arm at a rate of 4/5, and there was hemihypesthesia on the right side. Lumbar function test was then performed. Routine blood analyses and CSF examination were normal, and OCB type 2 was positive. Markers for vasculitis were negative. On VEP examination, bilateral P100 latencies were found to be prolonged. The patient was given pulse steroid therapy for 7 days. Regression was observed in his complaints after treatment. After the completion of his examinations, he was discharged. Pain and visual loss developed in the left eye of the patient 1 week after discharge, and he consulted the clinic of ophthalmology. Fibrin membrane in the anterior chamber of the left eye, fibrin band in the vitreous body, and posterior synechia were observed on ultrasonographic examination. Based on these findings, he was hospitalized in the clinic of ophthalmology due to the prediagnosis of uveitis. Sarcoidosis and Behçet's disease were not found, and NMO antibodies were negative. Interferon therapy was started by the clinic of ophthalmology. Since he did not benefit from medical treatment and his condition deteriorated rapidly, evisceration was performed in his left eye. The patient was followed up with the diagnoses of demyelinating disease and uveitis. On examination approximately 6 months after uveitis attack, no additional pathological symptom or sign was found. On control examination, no new finding was detected by cranial and spinal MRI. Oral immunosuppressant therapy was started on the patient in an external center. Verbal informed consent was obtained from the patient who participate in this case report.

Discussion

Multiple sclerosis is a chronic demyelinating disease of the central nervous system (CNS) (3). While the most common ocular finding is optic neuritis in cases with MS, uveitis can accompany the clinical picture with rates varying between 0.4% and 26.9%. Uveitis is more common among women between the ages of 20 and 50 years. It has a chronic course, and its long-term prognosis is generally good (4). Its presence in cases with MS is often as intermediary and posterior uveitis (2).

Since the nerve and eye tissues originate from the same embryological cells, MS and uveitis can be considered to be associated with each other etiologically (5). Periphlebitis is a more commonly encountered finding than periarteritis in uveitis (6). The retina normally does not include myelin because this affects the important function of phototransduction. Despite the absence of myelin in the retina, retinal periphlebitis in MS-associated uveitis resembles venular inflammation. Histology has demonstrated similar cellular accumulations around the vessels in the retina and CNS in MS. Accordingly, regardless of the presence of myelin, it can be said that similar inflammation processes occur in the retina and brain of patients with MS-associated uveitis. Retinal periphlebitis in MS can be considered as MS-associated CNS lesion (7). It is observed more frequently in cases with active MS (8). It has been reported that the presence of retinal periphlebitis in a patient with isolated optic neuritis can be a finding of MS, and the risk of the development of MS in these patients is 14% (9).

It has been shown that patients with MS have a genetic predisposition to uveitis, and IL2RA rs2104286 gene polymorphism associated with intermediate uveitis is interestingly correlated with MS and other autoimmune diseases (3). In a study evaluating 1254 patients with uveitis, MS was found in 16 patients, and uveitis was the initial symptom in 56% of them. It has been emphasized that uveitis is particularly bilateral, and it is more common among women (3, 10). In our study, Case 1 had a history of bilateral uveitis that she had experienced many years ago, and no abnormality had been detected in her examinations. She did not define any additional problems in her history and examination, except sensorial symptoms that she specified at admission. Case 2 had a uveitis attack in a short time with sensory and motor symptoms. Uveitis attack did not occur in a typical way but showed a fast and aggressive course. We did not encounter a study presenting with a similar case in our literature review.

There are a few studies on the treatment and follow-up of cases with coexisting MS and uveitis. Previous studies stated that laser therapy should be performed with pulse steroid therapy in the presence of obstructive vasculitis accompanied by vasoproliferation (2). Moreover, it has been reported that interferon beta-1a,

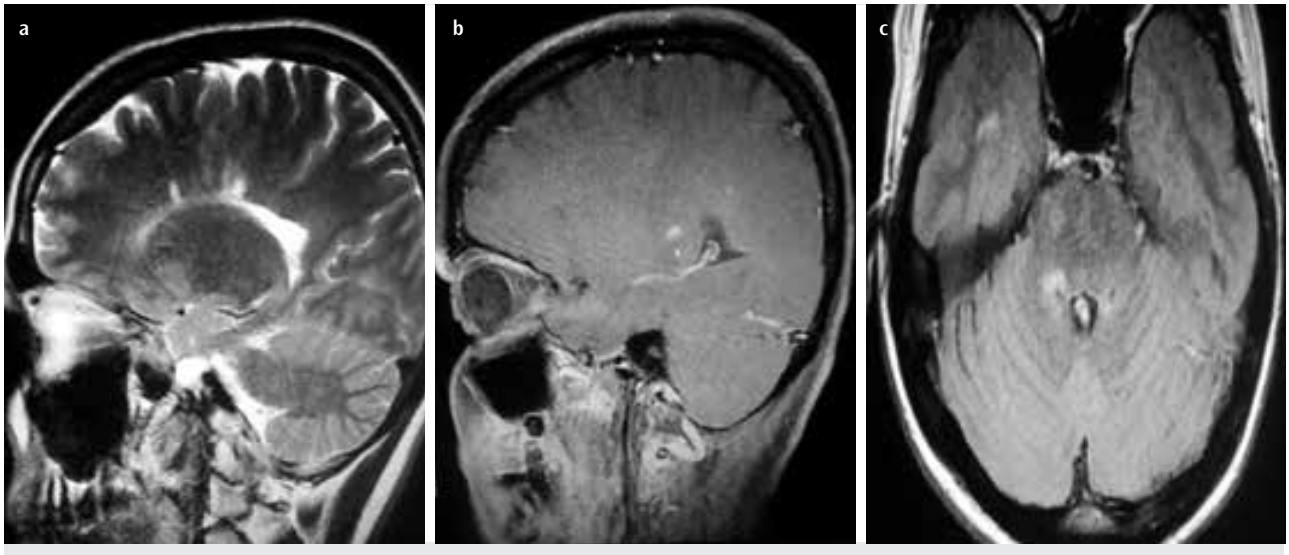

Figure 1. a-c. Hyperintense lesions in the cranial MRI sagittal T2 sequence in Case 1 (a); Lesion with contrast enhancement in the cranial MRI axial T1 contrast-enhanced sequence in Case 1 (b); Infratentorial lesions in the cranial MRI axial FLAIR sequence in Case 1 (c)

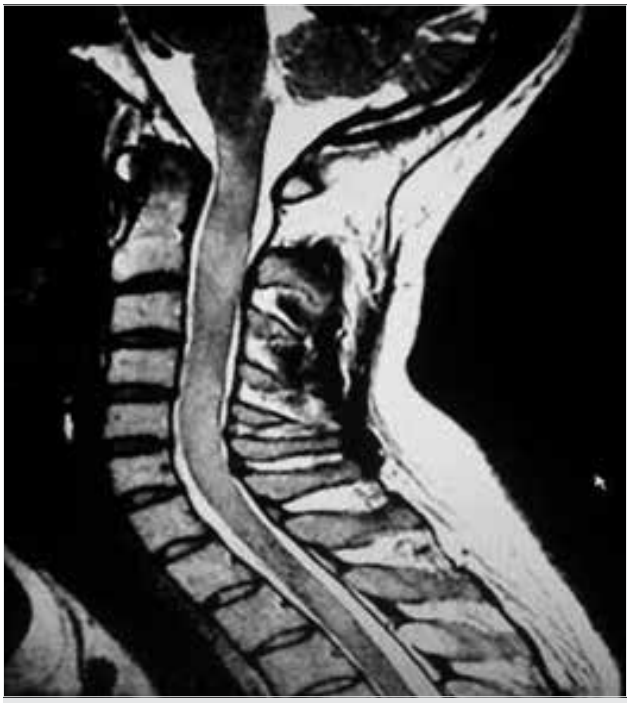

Figure 2. Longitudinal multiple hyperintense lesions in the cervical MRI sagittal T2 sections in Case 1

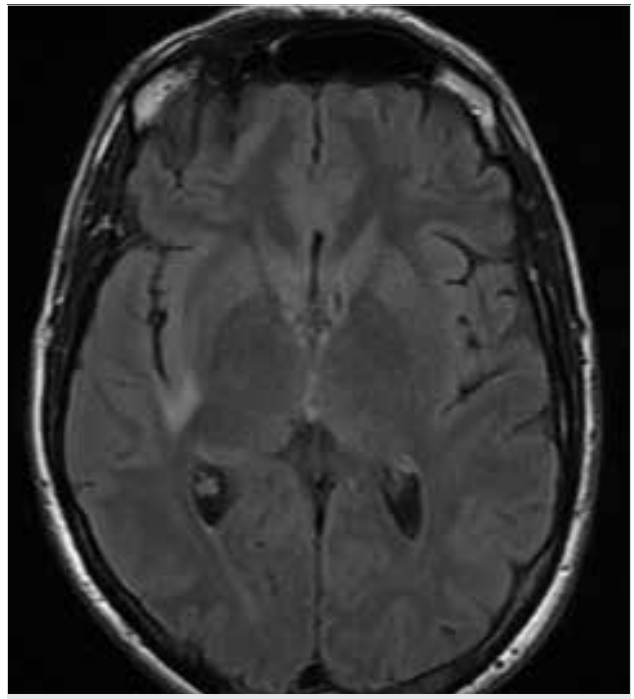

Figure 3. Hyperintense lesion in the right external capsule in the cranial MRI axial T2 FLAIR examination in Case 2

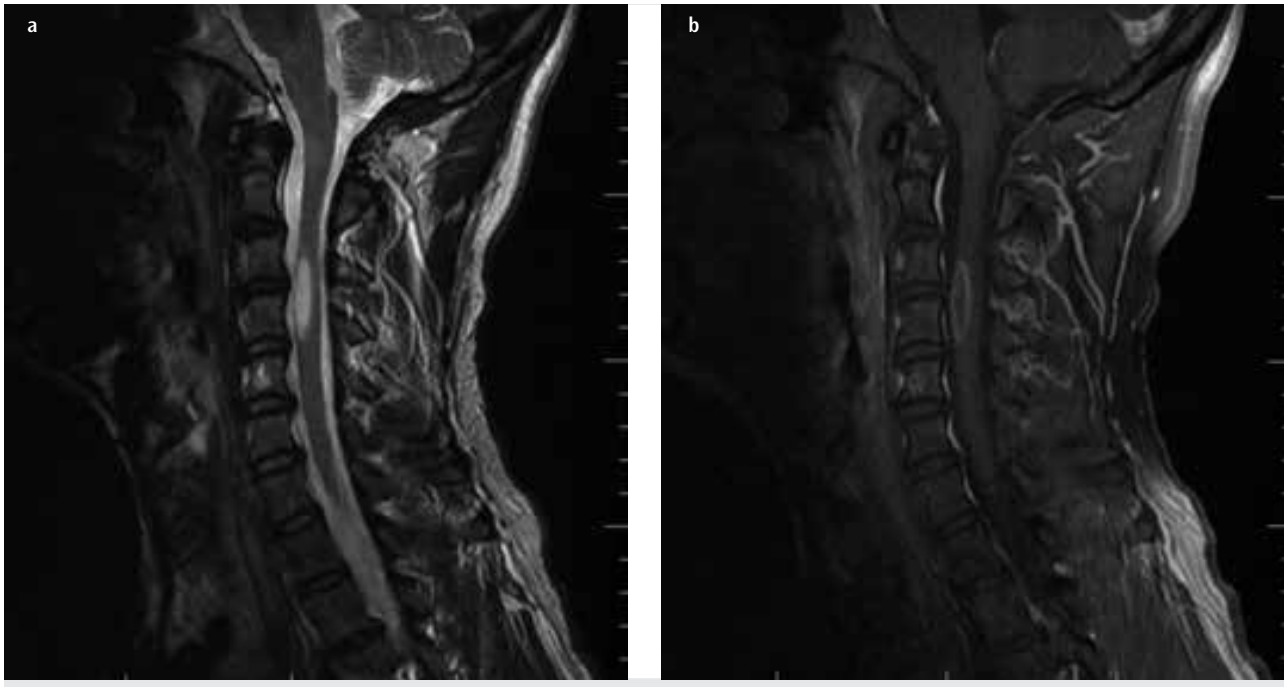

Figure 4. a, b. Longitudinal lesion at the C3-C4 level in the cervical MRI sagittal T2 sequence in Case 2 (a); Hyperintense lesion with peripheral contrast enhancement at the C3-C4 level in the cervical MRI contrast-enhanced T1 sequence in Case 2 (b)

which is used in the treatment of MS, is effective in the suppression of intraocular activity in patients with MS with uveitis, and it positively increases visual acuity (11).

Conclusion

Although the coexistence of MS and uveitis is not encountered very frequently, it can be easily overlooked. The first finding of the patient can be uveitis, and MS can be diagnosed during a detailed systemic examination. Apart from patients with MS developing uveitis, the detection of the presence of the characteristic features of MS-associated uveitis by performing a comprehensive ophthalmological examination of a patient with uveitis can be useful to evaluate the risk for MS development and follow-up. Clinical and radiological findings of MS in patients with uveitis and findings of uveitis in addition to optic neuritis in patients with MS should be

paid greater attention, which is important for the management of treatment and follow-up of patients.

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