FAMILIAL MEDITERRANEAN FEVER AND MULTIPLE SCLEROSIS: A CASE REPORT

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Abstract

A 30-year old man diagnosed with Familial Mediterranean fever (FMF) 2.5 years ago presented with numbness in his left lower extremity and ataxia. Multiple sclerosis (MS) plaques were founded in his spinal and cranial MRI. The diagnosis of MS was established and steroid treatment was started. FMF and MS coexistence is rare, but should not be missed.

Keywords: Familial Mediterranean Fever; Multiple Sclerosis; Amyloidosis.

Resumo

Homem de 30 anos com o diagnóstico de Febre Mediterrânea Familiar (FMF) há 2,5 anos, surge com parestesias no membro inferior esquerdo e ataxia. Na Ressonância Magnética medular e craniana estavam presentes placas de desmielinização compatíveis com esclerose múltipla (EM). Foi feito o diagnóstico de EM e iniciada terapêutica com corticosteróides. A coexistência de FMF e EM é rara, mas não deve ser ignorada.

Palavras-chave: Febre Mediterrânea Familiar; Esclerose Múltipla; Amiloidose.

Introduction

Familial Mediterranean fever (FMF) is an autosomal recessive disease. The characteristic features of FMF include the following: recurrent self-limited attacks of fever, polyserositis (synovitis, peritonitis, and pleuritis), and secondary amyloidosis. FMF affects several ethnic groups in the Middle East and Mediterranean countries. Genetic studies have shown that the gene for FMF is located on chromosome 16p and is designated MEFV. The diagnosis of FMF is based on a clinical history of typical acute attacks, ethnic background, and family history.[1]

Neurologic involvement in FMF is very rare and few cases of FMF with multiple sclerosis (MS) have been reported.[2] Therefore, we describe a case of a man with FMF who developped MS.

Case Report

A 30 year old man was admitted to our hospital with complaints of left lower extremity numbness and ataxia with approximately 1.5 months duration. The hypoesthesia which led to the current admission involved both lower extremities and ascended to the upper parts of the body and ultimately to the fingers.

He had recurrent attacks of arthritis in both ankles since childhood. There was no recurrent abdominal pain, chest pain, or erysipelas-like erythema.

Two and one half years prior to the current admission, he was admitted to the hospital because of facial edema. Proteinuria was detected and a renal biopsy showed amyloidosis. According to FMF gene analysis, he had a homozygous M694V mutation. Colchicine therapy (1.5 mg/day) was started. There was no history of FMF in his parents, brothers, or first-degree relatives.

Physical examination of the cardiovascular, gastrointestinal, and respiratory systems was normal. Arthritis was not present on admission. On neurologic examination, mild ataxia, a positive Romberg test, paraparesia (left side > right side), bilateral upper and lower extremity hypoesthesia (distal), deep sensory loss in the left lower extremities, hyperactive deep tendon reflexes bilaterally, and extensor

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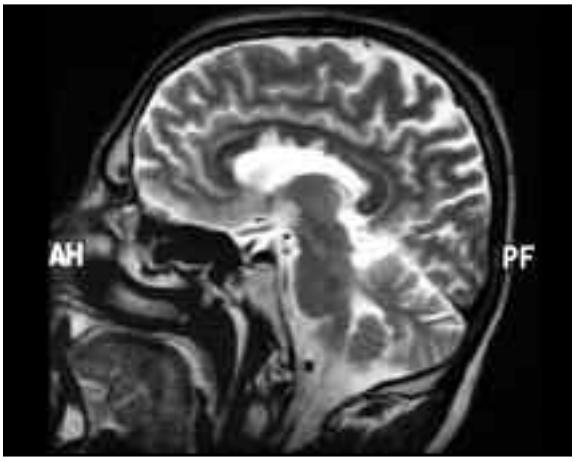

Figure 1. Periventricular and pericallosum hyperintense signal changes in T2w sagital images.

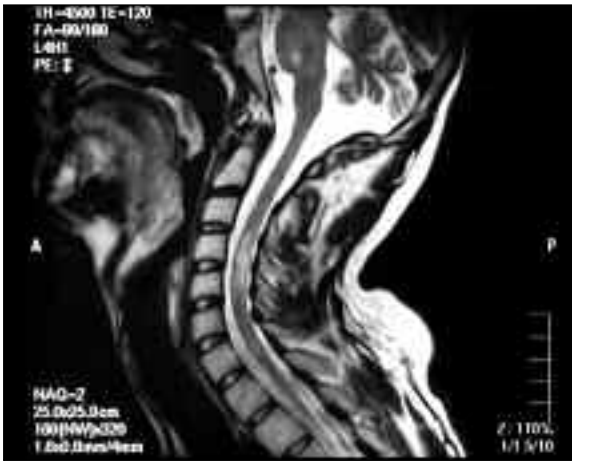

Figure 2. In the T2w sagital images, hyperintense MS plaques in the spinal cord at the level of C4-5 and C-7; similar plaques exist in the pons.

plantar response bilateral were observed. Other elements of the neurologic examination were all normal. Cranial MRI showed multiple patched and nodular signal change lesions in the pons, nucleus of the right abducens nerve, bilateral white matter areas neighboring the lateral ventricles, and the corpus callosum (Figure 1). Post-contrast series showed minimal irregular contrasting in the right pterygonal white matter and the corpus callosum. On spinal MRI, patched signal changes with an indefinite border were observed at the C5-C7 and C7-T2 levels of the vertebral corpus in the spinal cord (Figure 2). MRI findings were consistent with MS. Routine blood chemistries, the erythrocyte sedimentation rate, and urine protein (200 mg/24 h) were normal. The CRP was 12.1 mg/L and the albumin was 3.3 g/dL. Examination of the CSF albumin was normal and oligoclonal bands were present. Visual evoked potentials were delayed bilaterally.

He was diagnosed with MS and intravenous methylprednisolone (1000 mg/day) was administered for 5 days. While the paraparesia improved, the hypoesthesia persisted. The patient was maintained on colchicum (1.5 mg/day) for FMF.

Discussion

FMF is an autosomal recessive auto-inflammatory disease. Central nervous system involvement is uncommon and consists of optic neuritis, aseptic meningitis, amyloid ophthalmoplegia and pseudotumor cerebri.[3-6]

The relationship between FMF and MS remains controvertial. In a retrospective screening study Akman *et al.* reported 12 patients with FMF among a total of 2800 patients with inflammatory and demyelinating CNS diseases and suggested a 4--fold increased rate of FMF among patients with MS.[2] Topcuoglu *et al.* and Yucesan *et al.* reported 3 and 1 patients with FMF and MS findings, respectively.[7,8] However, in a study including 17 randomly selected patients with FMF, Karabudak *et al.* did not detect any evidence suggesting CNS demyelination.[9]

Our patient's complaints were recurrent arthritic attacks (no chest or abdominal pain) and he had also amyloidosis. His MS affected both the brain and spinal cord. All the cases in Akman's study had abdominal pain and 1 patient had amyloidosis as well, with a poor prognosis and died. High dose steroids were used in this latter patient.[2] We also administered steroids to our patient for 5 days and he responded well. The other four cases reported by Topcuoglu and Yucesan had abdominal pain, but no amyloidosis.[7,8]

MS and FMF have some similarities. Some MS forms and FMF are recurrent diseases and show inflammatory reactions.[8]

The presence of MEFV variants on both chromosomes is associated with the FMF phenotype. However, the proinflammatory condition induced by a single copy of the MEFV variants might alter the course of other inflammatory disorders.[2] Moreover, the presence of MEFV mutation is associa-

ted with an increased risk for other inflammatory diseases. Our patient had a homozygous M694V mutation. In the study of Shinar *et al.* the rate of M694V mutations was not increased in patients with MS, but they reported that disease could progress more rapidly in patients with MS carrying one mutant MEFV gene.[10] Thus, we must be cautious about the prognosis of patients who have both MS and FMF.

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