A rare case of cerebellar degeneration due to Primary Sjogren's Syndrome

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To the editor,

Primary Sjögren's syndrome (PSS) is an autoimmune disease mainly characterized by an altered function of salivary and lacrimal glands with possible systemic involvement. The reported prevalence of neurological manifestations varies widely from 10 to 60% with peripheral neuropathy being the most common[1]. Cerebellar atrophy associated with PSS is rare.

Case report

We present a 48-year-old woman, referred for hospital care, due to dysarthria, diplopia and ataxia. She had a previous history of an episode of sudden dysarthria and ataxia, about 10 years earlier, without any other relevant symptoms. At the time she did not seek medical care and had partial recovery, maintaining ataxia. A thorough clinical history confirmed the presence of xerostomia without xerophthalmia. She did not smoke, consume alcoholic beverages or illicit drugs and had no family history. Neurological examination revealed cerebellar ataxia, with a predominance of the lower limbs, multidirectional nystagmus and marked cerebellar dysarthria. Blood tests with complete blood count and complete biochemistry panel revealed an increased in erythrocyte sedimentation rate (41 mm/h, normal range: <20 mm/h) without further alterations. Rheumatoid factor was positive (71 UI/ml, normal range <20 UI/ml) and protein electrophoresis was normal. HIV, hepatitis B and C serologies were negative and VDRL was not reactive. Antinuclear antibodies were positive in high titer (1/1280) and speckled pattern in immunofluorescence with anti-SSA and anti-SSB positivity and antiphospholipid antibodies and anti-dsDNA were negative. Brain magnetic resonance imaging (MRI) revealed signs of bilateral cerebellar atrophy, slightly asymmetric, mainly at the upper left cerebellar level (Figure 1 to 3). Brain positron emission tomography (PET) scan demonstrated cerebellar glycolytic hypometabolism. The lumbar puncture retrieved a cerebrospinal fluid without alterations. Full-body computerized axial tomography (CT) was normal. Genetic study did not confirm a genetic cause for ataxia. The biopsy of salivary glands revealed a small lymphoid nodule (Focus Score of 1).

Considering the 2016 ACR/EULAR classification criteria for PSS[2], the patient was diagnosed with Sjogren Syndrome (SS). She has been treated with methylprednisolone pulses (1g/day for 3 days) followed by prednisolone (1 mg/kg/day) with slow tapering, in association with 3 cycles of cyclophosphamide 750 mg/m2 up to 1 g. After initially small improvement, the ataxia and the dysarthria worsened, which led to the start of intravenous immunoglobulin. A slight benefit was initially obtained, with subsequent worsening. The patient has since then been

treated with rituximab twice yearly (2 infusions of 1g). There was a moderate improvement in dysarthria and a slight improvement in coordination. Further brain MRI and PET remain stable.

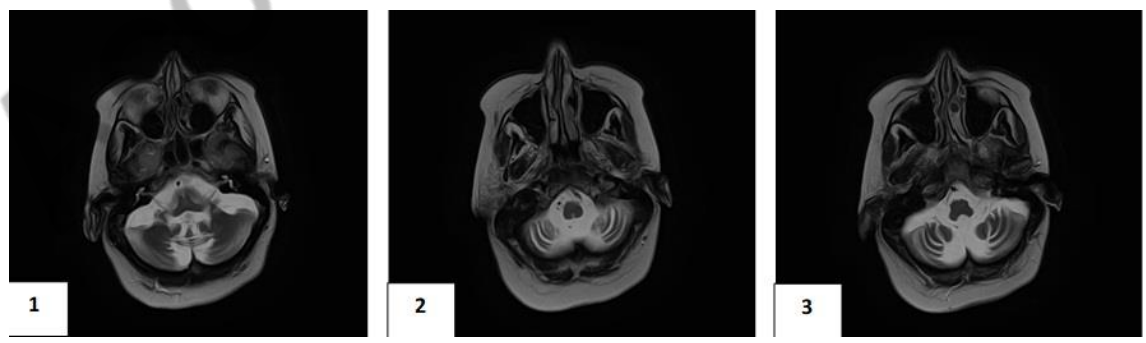
Up until a recent publication, there were five cases described in the literature with PSS associated with cerebellar degeneration and ataxia[3–6,8].

Most patients were female, age ranged between 22-61 years old and in three patient's ataxia and/or dysarthria was the initial symptom. Three patients received corticosteroids (intravenously and/oral) alone with partial/no benefit. In the other 2 cases, cyclophosphamide was used in combination with corticosteroids and the disease maintained stable or improves. Antineuronal antibodies were positive in 2 patients and may be associated with neurologic PSS manifestations.

The pathophysiology of this condition still remains unclear. In PSS involvement, vasculitis and ganglioneuropathic processes are the most common findings[7]. There are case descriptions with significant improvement in ataxia after treatment with methylprednisolone and cyclophosphamide[6], and others, such as ours, with no improvement with this combination[8]. Rituximab is used to treat systemic manifestations of SS[9] and in this case, this drug was the only with clinical response.

In conclusion, ataxia caused by cerebellar atrophy due to PSS is a very rare entity, needing further investigation. The diagnosis can be challenging especially when the neurological abnormalities precede the classic glandular involvement.

Figures



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