

Unusual case of recurrent falls

Myasthenia gravis in an elderly patient

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Although myasthenia gravis (MG) is usually thought of as affecting young to middle-aged women, similar to other autoimmune diseases, recent evidence suggests that this might be changing.¹⁻⁵ In one study, a significant increase in incidence of late-onset MG ($P < .05$) and decrease in early-onset MG ($P < .01$) were detected. The median age at onset of the disease steadily increased over time (from 42 years in 1985 to 1990 to 66 years in 2007).¹ In another study, 59% of patients who required treatment with pyridostigmine for the first time for MG were 60 years or older and 38% were 70 years or older.²

Falls are very common among the elderly, affecting at least a third of those aged 65 years or older.⁶ Our patient presented with recurrent falls, at least some of which were likely secondary to undiagnosed MG.

Case

An 87-year-old woman presented to the emergency department (ED) with a 1-month history of recurrent falls, generalized fatigue, leg weakness, and a left eyelid droop. Her history was remarkable for a generalized tonic-clonic seizure 9 years previously, at which time she was prescribed phenytoin. She had not had any documented seizures since then, but had had vague episodes associated with falling to the ground, without any preictal or postictal symptoms. Six years ago, she presented to the ED with what was believed at the time to be either a syncopal episode or a transient ischemic attack. A computed tomography scan of her head at the time showed no acute changes.

A month before her most recent ED presentation, she experienced a fall with a questionable short loss of consciousness. There were no prodromal symptoms, seizurelike motor activity, or postictal symptoms. Three weeks later, she had another episode, associated with leg weakness and extreme fatigue. She typically fell backward while walking. Five days later, she noticed a new left eyelid droop without associated diplopia.

She described increasing but nonspecific bilateral leg weakness. She found it difficult to walk or stand from sitting. On questioning she reported that she had noticed "total body weakness" for a year, and more recent problems with her head falling onto her chest and a change in the quality of her voice. She denied any other symptoms, including dysphagia. Her weakness and falls were not improved by the use of a walker, and she had to move to a retirement home for more support.

Her medical history was relevant for the seizure described above, type 2 diabetes, and hypertension. Her medications included phenytoin, metformin, acetylsalicylic acid, ramipril, trazodone, naproxen, and multivitamins.

On physical examination, she had bilateral fatigable ptosis with normal extraocular movements and no diplopia. There was bilateral facial weakness that was more pronounced on the left side, but normal jaw strength. Her voice was hoarse and equivocally fatigable when counting out loud. Neck flexor strength was mildly weak and fatigable. Motor testing in the extremities revealed an elderly woman who was unable to arise from her wheelchair, a dramatic change from the daughter's history of independent function a few weeks earlier. There was decreased power bilaterally in the deltoid and triceps muscles with fatigue (Medical Research Council Scale score of 4 or greater out of 5). In the legs there was nonfatigable weakness of hip flexion (Medical Research Council Scale score of 4 out of 5). She was unable to get on or off the examining table without assistance. Sensation to

EDITOR'S KEY POINTS

- Myasthenia gravis in elderly patients has been increasing steadily over the past few decades.
- The disease can present as recurrent falls—a common multifactorial geriatric syndrome.
- Myasthenia gravis can be easily overlooked in the elderly; therefore, it is important to maintain a high index of suspicion. Myasthenia gravis responds well to treatment in elderly patients, and the expected outcome is favourable overall.

POINTS DE REPÈRE DU RÉDACTEUR

- La myasthénie grave chez les patients plus âgés connaît une hausse constante depuis les dernières décennies.
- La maladie peut se présenter sous forme de chutes récurrentes - un syndrome gériatrique multifactoriel fréquent.
- On peut facilement ne pas reconnaître la myasthénie grave chez les aînés; il importe donc de rester très vigilant. La myasthénie grave répond bien au traitement chez les patients âgés et les résultats prévus sont généralement favorables.

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pin prick was normal. The deep tendon reflexes were 2 or greater and symmetric. Findings from the rest of the neurologic examination were unremarkable.

Results of a full metabolic and cardiac workup were negative. Magnetic resonance imaging of the brain showed mild chronic small vessel disease but no acute ischemic change.

During her hospitalization, the ptosis worsened and she developed dysarthria. Her weakness was generally better in the morning and worse in the afternoon, and clear muscle fatigability was documented on further physical examination.

Myasthenia gravis was suspected, and the diagnosis was eventually confirmed by a positive finding of antiacetylcholine receptor antibodies and decrement on 3-Hz facial repetitive nerve stimulation. A chest scan showed no evidence of a thymoma.

She was started on intravenous immunoglobulin therapy, as well as pyridostigmine and prednisone. Within 3 days of starting intravenous immunoglobulin therapy her ptosis had almost completely resolved, and she reported improvement in her general weakness. She continued to improve over the next 4 months. She had no further falls or problems with her eyes and voice. However, she continued to have some leg weakness, which was believed to be secondary to a possible compressive cervical myelopathy or diabetic neuropathy owing to the findings of stocking and glove distribution of numbness and tingling in the lower extremities bilaterally.

Discussion

Myasthenia gravis in elderly patients can be overlooked, and the diagnosis is often delayed compared with diagnosis in young patients. This is true for many reasons, such as the difficulty of recognizing the typical symptoms and signs owing to the physiologic changes that occur with aging, and the tendency to attribute the symptoms to more common diagnoses such as cerebrovascular disease.⁷ The problem of underdiagnosis is believed to be of greater importance in patients older than 80 years.⁷ Ruling out a thymoma is of particular

importance in elderly patients with MG, as thymomatous MG is more common among older patients.⁸

Our patient had a dramatic improvement with therapy, and we were able to prove the diagnosis easily once it was suspected. There are many readily available diagnostic tests with high sensitivities (eg, repetitive nerve stimulation and single-fibre electromyography) and specificities (antiacetylcholine receptor antibodies).⁹ Therefore, the most important step in making the diagnosis of MG is to have a high index of suspicion, especially given the increasing incidence and prevalence of MG in elderly patients. Moreover, once the diagnosis is made, a wide variety of effective therapeutic options is available,⁹ and although older patients have a higher mortality rate—mainly due to associated comorbidities—the expected outcome tends to be favourable overall.⁸ 🌿

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Competing interests

None declared

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