CLINICAL VIGNETTE

New Ptosis in an Elderly Male

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A 91-year-old male with chronic cognitive impairment presented to his PCP with one month of new left-sided ptosis. Review of systems was negative for eye pain, weakness, difficulty chewing, swallowing, change in speech pattern, vertigo, dizziness, lightheadedness, dyspnea, proximal muscle weakness, but positive for "foggy" vision. On exam the affected eye did not show erythema, edema, chalazion or hordeolum. Out of concern for a stroke, MRI of the brain and MRA of the head and neck were performed which did not show acute intracranial abnormality. He was seen a few weeks later by ophthalmology, where new right sided ptosis was noted. On eye exam, bilateral ptosis was present but the patient did not have pupillary or extraocular movement deficits that would be suggestive of third nerve palsy or Horner's Syndrome. Ice-pack test showed improvement in ptosis (Figure 1).

Labs and Imaging

The diagnosis of Myasthenia Gravis was high on the differential and labs were drawn as shown in Table 1. Results included positive acetylcholine binding antibody and negative muscle-specific tyrosine kinase antibody. Subsequent neurology testing included negative serum aldolase, mildly elevated creatine kinase and a chest CT negative for thymic abnormalities such as thymoma or thymic carcinoma.

Discussion

Myasthenia Gravis (MG) is a relatively uncommon disorder with an annual incidence of up to 23 cases per million.[1] This disease has a bimodal distribution with an early peak in the second and third decades of life (female predominance) and a later peak in the sixth to eighth decades (male predominance). The classic presentation includes ptosis and diplopia which is worse at the end of the day. However, in the elderly male population, an initial presentation of bulbar weakness with dysarthria, dysphagia and proximal muscle weakness is not uncommon. In this case, the patient presented with classic ocular symptoms of vision changes and bilateral ptosis, at times alternating between eyes. The ice-pack test, though not pathognomonic, is about 80% sensitive in patients with prominent ptosis[2] and was positive in this patient. The diagnosis was confirmed by the presence of acetylcholine binding antibodies, which are highly specific for MG. The patient was treated with pyridostigmine with significant improvement of ptosis and subjective vision symptoms. Based on the patient's advanced age, diagnosis of moderate to severe dementia, and other co-morbidities, a decision was made to forgo an extensive paraneoplastic workup. Nonetheless, the improvement in ptosis and visual impairment was of substantial value given this patient's high fall risk due to neurocognitive impairment and advanced age.

The current literature reports a second peak in MG in the seventh to eighth decades of life.[1] Despite this recent neuroepidemiological studies have shown under diagnosis of MG in older adults.[3,4] Many review articles and case reports cite increased prevalence of MG in the older population.[5-7] The increased prevalence may be due to an increasing life-span of the population and more access to testing. Although the increased prevalence does not necessarily indicate increasing incidence, MG should be included in the differential diagnosis of new neuromuscular findings in older adults.[3-7] In our case, the sudden, marked ptosis made thediagnosis more apparent, but this finding could also have been attributed to other more common diagnoses including cerebrovascular accident, thyroid ophthalmopathy, cranial nerve palsy, chronic fatigue, orbital trauma. Other barriers to diagnosing a new neuromuscular disease in the older population is multiple comorbidities including dementia, which might limit a patient's ability to clearly express subjective symptoms. In addition, clinicians may attribute the often vague presentations of neuromuscular diseases to polypharmacy and comorbidity-related complications.

Neuromuscular junction disorders are rare diseases and are even more so in older persons. However, these conditions should not be overlooked in the geriatric population given the potential deleterious effects on gait, balance and stability. Falls in older adults are well known to be a major source of long term morbidity and mortality. Therefore, clinicians should be particularly attentive when an older adult develops neuromuscular symptoms that compromise sensory awareness and result in a higher risk of falls.[8]

Conclusion

Myasthenia gravis, although a rare disease, has been increasing in prevalence in recent years and its incidence may be higher in the geriatric population than previously reported. Thus, it should be considered in the differential diagnosis and evaluated as treatment has the potential to improve functional status leading to a better quality of life in older adults.

Lab test	Value	Reference range
Acetylcholine binding antibody	9.30 nmol/L	≤ 0.30 nmol/L
Acetylcholine blocking antibody	40%	≤ 15%
Acetylcholine modulating antibody	82%	< 32%
TSH	2.743 μU/L	0.55-4.78 μU/L
Creatine kinase	299 U/L	40-280 U/L
Muscle-specific tyrosine kinase antibody	< 1:10	< 1:10
Aldolase	5.7 U/L	< 8.2 U/L

Table 1. Labs drawn for testing

Figure 1.

Figure 2.

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