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Myasthenia Gravis: An unusual case report with rare presentation

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Abstract

Introduction

Myasthenia gravis (MG) is part of a continuum of autoimmune diseases that damage neuromuscular junctions by anti-acetylcholine receptor antibodies. It is a relatively rare disease with a greater prevalence in women. The classical presentation is a tired diplopia or ptosis fluctuating and, uncommonly, dysphagia or dysphonia. While this condition is rare, it can affect any muscle, including the muscles of the neck or of the proximal limb. No documented cases of MG exhibiting as isolated neck weakness.

Case presentation

A 72-year-old female patient had neck weakness associated with a slight pain that intensified gradually during the day. Examination indicates only reduced tension of the cervical muscle motor strength. Anti-acetylcholine receptor antibodies The anti-acetylcholine receptor binding antibody was 14.07 nmol / L, 57 per cent blocking antibody, and 78 per cent modulating antibody, which is consistent with a myasthenia gravis diagnosis. The patient was prescribed Regonol, which improved her neck weakness. The patient was followed up, she returned to her previous baseline lifestyle with no clinical complications.

Conclusion

MG usually occurs in middle-aged female populations but can rarely also occur in elderly people with atypical symptoms. Clinicians should have a high index of myasthenia suspicion showing fatigued muscle exhaustion to minimize investigation costs and morbidity.

KEYWORDS

Disease, elderly, muscles, myasthenia, patients, symptoms, therapy, weakness

INTRODUCTION

Myasthenia gravis (MG) is a well-known autoimmune disease which commonly affects female populations of the middle ages. This disease is mediated by a type-II antibody reaction in which antibodies directed against receptors of post-synaptic nicotinic acetylcholine attack the myoneural junction and destroy the post-synaptic membrane by complement fixation. This arrests action potential transmission through the neurons, ultimately leading to a non-stiff neuromuscular weakness. [1] This autoimmune disorder is defined by fluctuating muscle fatigue, deteriorating with exertion, and improving with rest. The presence of extrinsic ocular muscles (EOMs) is identified as the initial symptom in about two-thirds of patients, typically progressing to include other bulbar muscles and limb musculature, resulting in generalized myasthenia gravis (gMG). [2] Symptoms are confined to EOMs in around 10 per cent of myasthenia gravis cases, with the resulting disorder being called ocular MG (oMG). Age and gender affect the progression of myasthenia gravis. Below 40 years, female: male ratio is around 3: 1; However, it is approximately equivalent between 40 and 50 years, as well as during puberty. More generally, it occurs in males over 50 years. [3] Anticholinergic autoantibodies attack the extraocular muscles, resulting in fluctuating muscular exhaustion, bilateral diplopia and ptosis, usually worse at the end of the day. It represents more than half of the cases. [1]

CASE PRESENTATION

Here we present a 72-year-old woman with diabetes reported two weeks of neck weakness which she described as an inability to straighten the neck. It has a sudden onset, illness or significant stressor beforehand. The weakness of the neck began abruptly, worsening during the day, causing moderate discomfort with no major aggravating or alleviating causes. There was no signs and symptoms of diplopia, ptosis, dysphagia, dysarthria, dysphonia, regurgitation, neck stiffness, photophobia, fever / chills, or breathing difficulties. Except for mother hypothyroidism, there is no known family history of autoimmune diseases. Clinical examination revealed 3/5 musculature strength of the spine, but no change in the strength in the upper and lower extremities. Sensory examination was normal. Deep tendon reflexes were overall 2 + symmetric, with Babinski sign negative. At this stage, the differential diagnosis included degenerative joint disease, fracture of the vertebral compression, muscle dystrophy, neuromuscular disease and paraneoplastic method. Serological findings were in an acceptable range. The X-ray was unremarkable, and the full blood count (CBC) and detailed metabolic panel (CMP) showed no signs of inflammation or infection. Liver function tests (LFTs), were unremarkable, except muscle inflammation; Autoimmune markers also came out regular. The erythrocyte sedimentation rate (ESR) was 14 mm / hr, and the level of serum creatine phosphokinase (CPK) was moderately elevated at 380 U / l, which is remarkably higher. The anti-acetylcholine receptor binding antibody was 14.07 nmol / L, 57 per cent blocking antibody, and 78 per cent modulating antibody, which is consistent with a myasthenia gravis diagnosis. We prescribe cholinergic agonists, patient on pyridostigmine (Regonol 60 mg QID) therapy was added. After pyridostigmine therapy began, her symptoms improved dramatically, she was stable on the drug, without any recurrence of weakness. No adverse effects of therapy have been reported. The patient returned to her previous baseline lifestyle with no vision, chewing, voice, or gait issues.

DISCUSSION

The case mentioned above is an exceptionally unusual presentation of a rare condition while the most common neuromuscular junction disorder is myasthenia gravis. This case illustrates the importance in elderly patients of a high clinical index of concern for myasthenia, with unexplainable neck or bulbar weakness even though there is no typical fluctuating weakness. [4] Weakness in myasthenia is due to impaired potential transmission of action caused by damage to post-synaptic receptors of acetylcholine, due to which muscles do not depolarize. The annual occurrence of MG is comparatively lower, typically 10-20 new cases recorded per million. The disease follows a bimodal distribution pattern, with a peak among the female population in the second to third decades and among males in the fourth to eighth decades. [3, 4] Classically, it has fluctuating and fatiguing muscle weakness in the skeleton, usually affecting the extraocular muscles and mastication muscles to a lesser degree. Myasthenia has been reported to present as dysphagia in older males with rapid progression to respiratory failure. [2] In addition to prototypical muscle involvement, any group of muscles can be affected, including the musculature of the proximal limb and neck. Significant delays in diagnosis or repeated misdiagnoses were identified among elderly patients. The average diagnostic time in the elderly (> 60 years) was 4.5 months in juxta place in the younger age groups, compared to 2.5 months. [2-5] Neck weakness may be a symptom of degenerative joint disease, disk herniation, osteoporotic vertebral fractures and metastasis in elderly females. Because of a wide range of potential triggers for neuromuscular symptoms, including transient ischemic attack (TIA) or stroke, Parkinson's disease, motor neuron disease, neuropathy, and Horner's syndrome, myasthenia is believed to be undiagnosed in senile

patients. [6, 7] Using indirect-acting anticholinesterases such as pyridostigmine/neostigmine [8], the standard treatment for healthy myasthenia gravis is. Ample anticholinesterase and steroid therapy contribute directly to the optimal rate of survival in elderly populations. [9-11] Thymectomy is a suitable choice for managing symptoms in younger patients but is not usually preferred in older patients, particularly those over the age of 60. [6-8] Elderly patients, in general, have also shown a positive response to therapies. [7]

CONCLUSION

Elderly people are at risk of misdiagnosis which leads to more complications. In summary, this case indicates that myasthenia should be considered as a possibility in elderly patients with neck weakness in the absence of typical symptoms. It's important to diagnose and treat myasthenia properly in its early stages.

AUTHORS' CONTRIBUTIONS

a. Study planning: AS
b. Case report: AS
c. Follow up: AS
d. Interpretation: AS
e. Manuscript writing: AS
f. Manuscript revision: AS
g. Final approval: AS

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ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Patient consent was taken.

CONSENT FOR PUBLICATION

Consent was taken from the patient before publication.

COMPETING INTERESTS

None declared.

PUBLISHER'S NOTE

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