*Salud, Ciencia y Tecnología*. 2025; 5:984
doi: 10.56294/saludcyt2025984

**CASE REPORT**

# The Difficult Management of Depressive Symptoms in a Patient with Myasthenia Gravis: A Case Report

## El difícil manejo de los síntomas depresivos en un paciente con miastenia gravis: reporte de caso

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**Cite as:** Garcia Pereira B, Barreto Alcântara GJ, Garcia de Alencar JC, de Paula Pessoa RM. The Difficult Management of Depressive Symptoms in a Patient with Myasthenia Gravis: A Case Report. Salud, Ciencia y Tecnología. 2025; 5:984. https://doi.org/10.56294/saludcyt2025984

**Submitted:** 24-01-2024 **Revised:** 14-05-2024 **Accepted:** 11-10-2024 **Published:** 01-01-2025

**Editor:** Dr. William Castillo-González

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**ABSTRACT**

**Introduction:** depression in patients with Myasthenia Gravis (MG) can be multifactorial, involving biological, psychological, and social factors. Depressive manifestations may arise as a result of the emotional impact of a chronic and potentially disabling condition, as well as from neurobiological changes associated with the disease or immunosuppressive treatment.
**Method:** in this article, we report a case of a 51-year-old man diagnosed with MG and concomitant depressive symptoms. Treatment was initiated with sertraline 150 mg/day and trazodone 50 mg/day.
**Results:** the choice of psychotropics should be made with caution, opting for drugs with a lower likelihood of affecting neuromuscular function. SSRIs are the most effective drugs for treating depression in patients with MG, and it is advisable to avoid drugs with anticholinergic effects, such as tricyclics and haloperidol.
**Conclusion:** caution is important when prescribing psychotropic medications to patients with MG due to the risk of affecting neuromuscular transmission.

**Keywords:** Myasthenia Gravis; Depression; Psychotropics.

**RESUMEN**

**Introducción:** la depresión en pacientes con miastenia gravis (MG) puede ser multifactorial, involucrando factores biológicos, psicológicos y sociales. Las manifestaciones depresivas pueden surgir como resultado del impacto emocional de una condición crónica y potencialmente discapacitante, así como de los cambios neurobiológicos asociados con la enfermedad o el tratamiento inmunosupresor.
**Métodos:** en este artículo, reportamos el caso de un hombre de 51 años diagnosticado con MG y síntomas depresivos concomitantes. El tratamiento se inició con sertralina 150 mg/día y trazodona 50 mg/día.
**Discusión**: la elección de psicotrópicos debe hacerse con precaución, optando por fármacos con menor probabilidad de afectar la función neuromuscular. Los ISRS son los fármacos más efectivos para tratar la depresión en pacientes con MG, y es recomendable evitar medicamentos con efectos anticolinérgicos, como los tricíclicos y el haloperidol.
**Conclusión:** es importante tener precaución al prescribir medicamentos psicotrópicos a pacientes con MG debido al riesgo de afectar la transmisión neuromuscular.

**Palabras clave:** Miastenia Gravis; Depresión; Psicotrópicos.

## INTRODUCTION

Myasthenia gravis (MG) is a disease that affects the neuromuscular junction, having an autoimmune nature and being mediated by B lymphocytes and antibodies such as anti-muscle-specific kinase (anti-MUSK), anti-acetylcholine receptor (anti-AChR), and anti-protein 4 (anti-LRP4).[1] The characteristic symptoms of MG include weakness of the ocular muscles, difficulty swallowing and speaking, as well as generalized weakness of the limbs.[2] Incidence rates have a bimodal distribution, with onset in the third decade of life, mainly in women, and onset in the sixth decade in men.[3]

Chronic muscle weakness in myasthenia gravis may lead to limitations in daily activities, social isolation, and loss of autonomy, resulting in a decline in the patient's quality of life.[4] Concurrently, depression contributes to the perception of worsening muscle weakness, exacerbating MG symptoms,[5] particularly the sensation of fatigue.[6,7]

When compared to the general population, mental health impairments are more prevalent in patients with MG,[8] with depression being reported in one-third of patients with MG.[9,10] A study in patients with MG, where an instrument assessing psychological distress in non-psychiatric patients was applied, showed that the proportion of patients with moderate to severe depressive symptoms increased from 59 % in patients with mild MG to 273 % in those with severe MG.[3]

This report presents the case of a patient diagnosed with myasthenia gravis and comorbid major depressive disorder, highlighting the difficulties in treating depressive symptoms in a developing country.

## CASE REPORT

This clinical case presents a 51-year-old man with no personal or family history of neurological or psychiatric conditions. He sought care at a public mental health service, reporting worsening of anxious and depressive symptoms accompanied by suicidal ideation, abulia, anhedonia, and unmeasured weight loss.

The onset of depressive symptoms dates back 2-3 months, with manifestations of involuntary muscle contraction in the glabella, fluctuating eyelid ptosis, dysphonia, dysphagia, generalized asthenia, and the perception of diffuse "shocks" throughout the body. The symptoms were initially associated with a psychiatric condition by a healthcare professional, and the patient was referred to the service due to a conversion disorder and suicidal ideation. However, further diagnostic investigation was consistent with the diagnosis of Myasthenia Gravis, thus ruling out conversion disorder. Initially, the ice pack test was performed, yielding a positive result. Then, an electromyographic study of the four limbs was requested, which revealed signs of neuromuscular junction impairment, with significant decrement, more evident in proximal/bulbar muscles, consistent with the diagnosis of Myasthenia Gravis. The disease was etiologically linked to a thymoma, which was treated surgically.

Upon returning to psychiatric care, the patient reported significant weakness, necessitating the use of a wheelchair, as well as difficulties in feeding, requiring a nasoenteral tube. His treatment included monthly infusions of immunobiologics in addition to pharmacological therapy with trazodone 50 mg/day, sertraline 150 mg/day, prednisone 20 mg/day, and pyridostigmine 60 mg four times a day.

Despite continuous use of psychotropic drugs and psychotherapeutic follow-up, the patient continued to experience persistent suicidal thoughts with concrete planning, feelings of depression, and the perception of being a burden to his caregiver.

## DISCUSSION

Patients with myasthenia gravis should undergo comprehensive and careful medical evaluation, including the consideration of mental health aspects and quality of life.[11] Multidisciplinary treatment, including medication, therapy, and emotional support, can improve the quality of life and functional capacity of these patients.[12] However, there is limited information on the treatment with psychotropics in patients with MG that allows for standardized practices, as studies often lack randomization or placebo control.[13]

The most commonly used classes of psychotropic drugs to treat depressive disorders in the general population are selective serotonin reuptake inhibitors (SSRIs) and serotonin-norepinephrine reuptake inhibitors (SNRIs).[14] An observational study analyzing the likelihood of adverse effects from some classes of medications concluded that some SSRIs have an increased risk of causing side effects in patients with MG (e.g., sertraline, citalopram); however, the risk was not uniform within the class, with some medications showing lower risk (e.g., escitalopram, paroxetine).[15] In the presented case, the choice of sertraline and trazodone was based on their free availability in the public health system and the patient's financial difficulties.

Some psychotropics with anticholinergic effects, such as tricyclics and haloperidol, may cause muscle weakness and influence neuromuscular transmission already compromised by myasthenia gravis.[13] Long-acting benzodiazepines, such as Diazepam, should also be used with caution in these patients due to the risk of respiratory depression.[16] Exacerbation of MG symptoms has also been reported in patients using lithium.[17]

The choice of psychotropic medications in patients with MG should be careful, opting for drugs with the

https://doi.org/10.56294/saludcyt2025984

lowest probability of affecting neuromuscular function.[18] SSRIs remain the most effective drugs in reducing symptoms and the severity of depression in these patients;[19] however, large-scale longitudinal studies are needed to gain a better understanding of depression management in these patients with neuromuscular disease and to systematically monitor the possible side effects of these drugs.[11]

## CONCLUSIONS

Aligning pharmacological therapy for depressive conditions in patients with MG while avoiding potential side effects on the neuromuscular junction that could worsen disease progression remains a challenge. The therapeutic arsenal has limitations given the possibility of adverse effects. There is a need for methodologically sound studies addressing the use of psychotropics in patients with MG.

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## CONFLICT OF INTEREST STATEMENT

The researchers declared no conflicts of interest

## FUNDING

The study was partly funded by the Coordination for the Improvement of Higher Education Personnel - Brazil (CAPES) - Financial Code 001.

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