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WHEN INFECTION MEETS AUTOIMMUNITY: DENGUE AS A PRECIPITANT OF MYASTHENIC CRISIS IN OCULAR MYASTHENIA GRAVIS	KEY WORDS: Ocular Myasthenia Gravis, Dengue fever, Myasthenic Crisis, Adolescent, ARDS

Dr Pradip Chaudhari*	Junior Resident, Department of General Medicine, Dr. D.Y. Patil Medical College & Hospital, Nerul, Navi Mumbai *Corresponding Author
Dr. Santwana Chandrakar	Professor, Department of General Medicine, Dr. D.Y. Patil Medical College & Hospital, Nerul, Navi Mumbai
Dr. Smita Patil	Head of Department, Department of General Medicine, Dr. D.Y. Patil Medical College & Hospital, Nerul, Navi Mumbai

ABSTRACT	Ocular myasthenia gravis (OMG) is a localized form of autoimmune myasthenia gravis, initially presenting with fluctuating weakness of extraocular muscles and ptosis. Although confined to ocular symptoms in most cases, OMG can progress to generalized disease or even myasthenic crisis under specific triggers. Myasthenic crisis, defined as severe respiratory failure requiring ventilatory support, is a medical emergency. We report the case of a 14-year-old girl with a 6-month history of ocular myasthenia gravis who presented with fever, cough, and breathlessness for three days. She had fatigable ptosis, slurring of speech, and decreased bilateral air entry on admission. Laboratory evaluation revealed anemia, elevated inflammatory markers, coagulopathy, positive acetylcholine receptor antibody, and dengue serology positivity. Arterial blood gas analysis showed metabolic acidosis. The patient was managed with intravenous antibiotics, immunoglobulin therapy, and supportive transfusion. Dengue infection acted as a precipitant, worsening her ocular myasthenia gravis and leading to myasthenic crisis. This case highlights the rare but significant association between dengue fever and MG exacerbation, emphasizing the importance of early recognition and multidisciplinary management.
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INTRODUCTION Myasthenia gravis (MG) is an autoimmune neuromuscular disorder characterized by fluctuating muscle weakness due to antibodies against acetylcholine receptors or associated proteins [1,2]. Ocular myasthenia gravis (OMG) presents with ptosis and diplopia, with up to 50–60% progressing to generalized disease within two years [2]. Myasthenic crisis is a life-threatening complication requiring ventilatory support, most often triggered by infections [1,3]. Dengue fever, common in endemic regions, can cause neurological complications including encephalitis, myelitis, and neuropathies [4]. However, its role in precipitating MG crisis is rarely reported [5]. Case Report A 14-year-old girl with a 6-month history of ocular myasthenia gravis presented with fever, cough, and breathlessness for three days. She reported worsening ptosis and slurred speech. Examination Afebrile, BP 120/80 mmHg, pulse 110/min, SpO₂ 100% on NIV. She had bilateral fatigable ptosis, slurred speech, bulbar weakness, and decreased bilateral air entry. Investigations: Hemoglobin 10 g/dL (from 12 g/dL), PT 22.3 sec, INR 2.43, CRP 60 mg/L, procalcitonin 19.4 ng/mL, dengue NS1 positive, AChR antibody positive. ABG: metabolic acidosis. Chest X-ray revealed mild bilateral infiltrates consistent with evolving respiratory involvement. Diagnosis: Acute respiratory distress syndrome with Myasthenic crisis precipitated by dengue infection. Management The patient was admitted to the intensive care unit and	managed with non-invasive ventilation initially and then required invasive mechanical ventilation , with close monitoring of respiratory effort and blood gases. She received: • IV antibiotics to cover secondary bacterial infection, • Intravenous immunoglobulin (IVIG) • Packed red blood cell transfusion for anemia correction, Supportive care including fluids, monitoring of coagulation profile, and nutritional support. Anticholinesterase therapy was withheld temporarily during the crisis and restarted after stabilization. Steroids were considered but deferred due to concurrent infection and risk of worsening dengue outcomes. DISCUSSION Infections remain the leading precipitant of myasthenic crisis, with bacterial pneumonia and viral illnesses as common triggers [1,3]. Dengue is an arboviral infection known to cause neurological complications, including encephalitis, myelitis, and Guillain-Barré syndrome [4]. Its role in precipitating MG crisis is rarely reported [5]. Possible mechanisms include systemic inflammation, metabolic stress, and immune activation worsening neuromuscular weakness [2,4]. Our patient had previously stable OMG which deteriorated during dengue infection, progressing into crisis. Elevated inflammatory markers and metabolic acidosis reflected systemic stress. Management of myasthenic crisis requires ventilatory support, immunomodulation (IVIG or plasmapheresis), and treatment of precipitating factors [1,2]. Infections require careful antibiotic use, avoiding agents that worsen MG (e.g., aminoglycosides, fluoroquinolones). Our patient responded well to IVIG, antibiotics, and supportive care. This case emphasizes the importance of recognizing dengue as a possible precipitant of crisis in MG patients from endemic areas. Awareness of this association ensures timely diagnosis and appropriate treatment. CONCLUSION
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Ocular myasthenia gravis may progress to crisis when triggered by systemic infections. Dengue fever, though uncommon as a precipitant, can significantly worsen neuromuscular weakness. Clinicians in endemic regions should remain vigilant to this association to ensure early diagnosis and optimal management.

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