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Gabapentin-induced exacerbation of myasthenia gravis

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A 65-year-old man with a history of esophageal spasms and GERD was transferred from an outside hospital after developing worsening dysarthria and dysphagia. He also complained of diffuse paresthesia and muscle weakness in the arms and legs. Two months previously, he had undergone low back surgery which was complicated by infection. He was treated with antibiotics, after which he began developing numbness in the hands and thighs. He was started on gabapentin for these symptoms, and his dosage was increased to 300 mg t.i.d. Within one week, he developed worsening dysphagia and vomiting. He had trouble talking, felt as if his tongue could not move, and noted chest tightness on swallowing. His symptoms were worse with temperature fluctuations, and they were worse at night. On presentation to an outside hospital, gabapentin was stopped, and he was given a single dose of methylprednisolone and diphenhydramine for a possible allergic reaction. His symptoms improved, but he had persistent dysphagia.

On transfer, multiple routine blood tests were found to be normal. MRI of the brain showed chronic microvascular ischemic changes. MRI of the cervical spine demonstrated disc osteophyte complexes and an annular bulge that contacted the ventral aspect of the cord and caused severe right C6 foraminal stenosis. Chest X-ray and CT scan of the chest were unremarkable. A barium swallow study revealed laryngeal penetration and prominent tertiary contractions compatible with esophageal spasms. Esophageal endoscopy was unremarkable. Electrophysiological testing revealed bilateral L4-5 radiculopathies, unobtainable lateral femoral cutaneous sensory nerve action potentials, bilateral carpal tunnel syndrome, and normal cranial muscles. Repetitive stimulation and jitter studies of the bulbar muscles were not technically feasible. Paraneoplastic antibody assays including MaTa, CV2, Hu, and voltage-gated calcium channel antibody was unrevealing. Acetylcholine receptor antibodies were present at 33.3 nmol/L (positive >0.5 nmol/L) and confirmed on repeat testing.

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The patient was started on pyridostigmine and experienced resolution of his pre-morbid problems of GERD and esophageal spasms.

The potential for gabapentin to worsen symptoms in myasthenia gravis (MG) has been reported in two prior cases. Scheschonka et al. (1) described a patient with marked exacerbation of known MG-induced weakness after gabapentin treatment for herpes zoster. Boneva et al. (2) reported unmasking of MG by gabapentin in a patient without neuromuscular symptoms. This group also showed that gabapentin aggravates the decremental response in rats with experimental autoimmune myasthenia gravis. Our elderly patient was actually symptomatic but misdiagnosed, and initiation of this drug exacerbated the clinical phenotype and thereby clarified the underlying pathophysiology.

MG can present with common symptoms of speech and swallowing difficulties in the elderly, and therefore may easily be misdiagnosed. Numerous case studies have reported MG mimicking stroke, particularly in those that have dysarthria and dysphagia (3,4,5). Other reports have described episodes of stridor and vocal cord paralysis with MG (6,7). In this patient, GERD and cervical disc disease, share overlapping symptoms with MG, including muscle weakness, slurred speech, and difficulty swallowing.

This case suggests that gabapentin is a potentially dangerous medication in MG, and it should be used with caution in patients with known disease.

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Acronyms or abbreviations

GERD	gastroesophageal reflux disease
MG	myasthenia gravis
MRI	magnetic resonance imaging