

Clinical Notes

Rare association of myasthenia gravis and ulcerative colitis

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Ulcerative colitis, an inflammatory bowel disease, is generally known to be limited to the gastrointestinal system, however, extraintestinal findings, like nervous system involvement, may be seen. Neurological findings like stroke, autoimmune neuropathies, cerebral demyelination, myelopathy, myopathy, and myasthenia gravis (MG) may be present in patients with ulcerative colitis. Although they seem to be independent of each other, auto-immunity is the common pathophysiological mechanism in both diseases. We discuss the association of these 2 uncommon autoimmune diseases in this case presentation.

A 31-year-old woman was admitted to the clinic with complaints of diplopia and dropping of the right eyelid that started a year ago. When she had hematochezia 10 years ago, she was diagnosed with ulcerative colitis and underwent a hemicolectomy operation. Neurological examination showed ptosis of the right eyelid, mild facial diplegia, and paresis of the axial muscles. The fatigue phenomenon was positive. Total blood count, biochemical tests, and thyroid function tests were normal. Her serum anti-acetylcholine receptor antibody level was found elevated at 2 nmol/L (normal <0.5 nmol/L). A mediastinal MRI was normal. Repetitive nerve stimulation studies recorded from the adductor pollicis and nasal muscles revealed normal findings. Ice pack and pyridostigmine tests were positive. Pyridostigmine 120 mg/day was started, and the dose was increased to 240 mg/day. Her complaints improved partially. She had fecal incontinence due to previous surgery, so the dose of pyridostigmine could not be further increased because of the increased bowel peristalsis. After low dose steroid addition (Delta-Cortril 15 mg/day), her complaints improved markedly and she was followed as an outpatient.

Myasthenia gravis is an autoimmune neuromuscular disease characterized by weakness of voluntary muscles, which improves with rest and worsens with activity.¹⁻⁴ It may be associated with many autoimmune events such as myositis, scleroderma, pernicious anemia, Hashimoto's thyroiditis, systemic lupus erythematosus, alopecia, lichen planus, and vitiligo.¹⁻⁴ Also, an association between MG and inflammatory bowel diseases like ulcerative colitis and Crohn's disease has also been suggested.¹⁻⁴ Autoimmune dysregulation is suggested to be the central defect in both MG and inflammatory bowel diseases. In various studies, abnormal thymic involution and abnormal T suppressor/T helper cell ratio,

decreased suppressor T cells and increased immature T cells suggesting migration without normal maturation have been indicated.¹⁻⁴ Ulcerative colitis is one of the inflammatory bowel diseases, and inflammation of the mucosa and submucosa of the bowel is seen. In the inflammatory area, mucosal ulcers finally develop. The left colon and rectum are the most affected parts of the bowel. The disease may be seen at any age, but generally between 16-40 years. Both genders may be affected equally. The clinical findings are hemorrhagic feces, hematochezia, diarrhea, fever, and weight loss. Also, extraintestinal findings such as joint, eye, skin, and liver involvement may be seen. The aim of the treatment is to control the inflammatory damage, correct the alimentary disorder, and prevent the inflammation, and the manifestations like bleeding and diarrhea. For the anti-inflammatory effect, aminosalicylates are used. During the active disease, corticosteroids may be added to the treatment. Also, immunosuppressive drugs like azathioprine and mercaptopurine may be used to block inflammation. The underlying mechanism for MG and inflammatory bowel diseases is suggested to be the autoimmunity. On English literature review, only 6 cases with MG and ulcerative colitis association have been reported. In one patient, the ocular findings of MG had developed while ulcerative colitis had been in remission for the past 5 years without medication.¹ Another patient who had the ulcerative colitis diagnosis developed lichen planus, MG, alopecia areata, and vitiligo in subsequent years and these diseases were presumed by some to be manifestations of autoimmunity.² In one patient with ulcerative colitis, lichen planus and MG starting with ocular findings had developed.³ Also, regression in findings of MG after proctocolectomy in a patient with ulcerative colitis has been reported.⁴ The text of the other 2 cases could not be elicited.⁵

Common autoantibodies and/or possible immune mechanisms have not yet been clearly elucidated in the development of these 2 diseases. Although the presence of these 2 diseases might be coincidental; they, like Hashimoto thyroiditis and MG, might develop by common autoimmune mechanisms, not clearly defined yet. For this, we need more clinical cases and further study. By presenting this case, we wanted to draw attention to the very rare association of these 2 diseases.

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References

1. Foroozan R, Sambursky R. Ocular myasthenia gravis and inflammatory bowel disease: a case report and literature review. *Br J Ophthalmol* 2003; 87: 1186-1187.
2. Tan RS. Ulcerative colitis, myasthenia gravis, atypical lichen planus, alopecia areata, vitiligo. *Proc R Soc Med* 1974; 67: 195-196.
3. Miller TN. Myasthenia gravis, ulcerative colitis, and lichen planus. *Proc R Soc Med* 1971; 64: 807-808.
4. Gower-Rousseau C, Reumaux D, Bellard M, Delecourt L, Ribet M, Colombel JF. Remission of myasthenia gravis after proctocolectomy in a patient with ulcerative colitis. *Am J Gastroenterol* 1993; 88: 1136-1138.
5. McCann P, Pramanik A. Dysphagia and unexpected myasthenia gravis associated with primary biliary cirrhosis, ulcerative colitis, and vitiligo. *J Am Geriatr Soc* 2004; 52: 1407-1048.

REFERENCES

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