

11th British Veterinary Neurology Society Symposium

Friday 11th April 2026

RAPID IMPROVEMENT OF SEVERE GENERALIZED MYASTHENIA GRAVIS IN A DOG WITH A NOVEL TARGETED ACTIVE IMMUNOTHERAPY

Andrea Fischer¹, Annika Schmitz¹, Stephane Huberty², Lara A. Matiasek¹, Sofie F.M. Bhatti³, Rene Dörfelt¹, Florian Sängler¹

¹LMU Small Animal Clinic, Centre for Clinical Veterinary Medicine, Ludwig-Maximilians-Universität München, Munich, Germany; ²CuraVac Europe S.A., Rixensart, Belgium; ³Small Animal Department, Faculty of Veterinary Medicine, Ghent University, Salisburylaan 133, 9820 Merelbeke, Melle, Belgium; corresponding author: andrea.fischer@lmu.de

Myasthenia gravis (MG) is a rare but serious disease in dogs. Common treatment strategies are pyridostigmine, management of megaesophagus, and additional immunosuppressants if tolerated. Yet a significant proportion of dogs may not survive and reach remission.

The aim is to report a positive short-term outcome in a dog with MG following targeted active immunotherapy using complementary peptides designed to elicit an antibody response that neutralizes disease-causing antibodies.

A five-year-old Labradoodle with a 10-day history of severe exercise-dependent weakness presented for treatment of non-thymoma-associated MG. On presentation, the dog was only ambulatory for 3-5 steps despite high-dose pyridostigmine. Neurologic examination was consistent with generalized MG with additional bulbar signs (respiratory stridor). We confirmed seropositive MG using a validated canine RIA for acetylcholine receptor antibodies. The dog improved significantly after immunoadsorption, able to walk 200-300 meters before needing to rest, but pronounced weakness recurred over the following week despite continued treatment with high-dose pyridostigmine and low-dose prednisone. The owner signed informed consent for a protocol involving three subcutaneous immunizations with the complementary peptide formulation CV-MG01 over the next four weeks. Treatment with CV-MG01 started 5 days after immunoadsorption and 17 days after the onset of MG. No side effects occurred. Acetylcholine receptor antibodies were monitored biweekly and decreased continuously. Exercise-dependent weakness improved significantly 3 weeks after the first injection. Thereafter, the dog could walk 4 km without any signs of weakness 6 weeks after the first injection, and is currently on a tapering course of pyridostigmine. The promising response in this dog is in line with a previous report suggesting that active immunotherapy can induce early remission in dogs with MG.

References:

Galin, F. S., Chrisman, C. L., Cook, Jr. J.R., Xu, L., Jackson, P. L., Noerager, B. D., Weathington, N. M., Blalock, J. E. (2007). Possible therapeutic vaccines for canine myasthenia gravis: implications for the human disease and associated fatigue. *Brain, behavior, and immunity*, 21(3): 323-331.