

# High-dose intravenous immune globulin for stiff-person syndrome.

[Dalakas MC](#), [Fujii M](#), [Li M](#), [Lutfi B](#), [Kyhos J](#), [McElroy B](#).

Neuromuscular Diseases Section, National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, MD 20892-1382, USA. [dalakasm@ninds.nih.gov](mailto:dalakasm@ninds.nih.gov)

Comment in:

- [N Engl J Med. 2002 May 30;346\(22\):1747-8; author reply 1747-8.](#)
- [N Engl J Med. 2002 May 30;346\(22\):1747-8; author reply 1747-8.](#)

## Abstract

**BACKGROUND:** Stiff-person syndrome is a disabling central nervous system disorder with no satisfactory treatment that is characterized by muscle rigidity, episodic muscle spasms, high titers of antibodies against glutamic acid decarboxylase (GAD65), and a frequent association with autoimmune disorders. Because stiff-person syndrome is most likely immune-mediated, we evaluated the efficacy of intravenous immune globulin.

**METHODS:** We assigned 16 patients who had stiff-person syndrome and anti-GAD65 antibodies, in random order, to receive intravenous immune globulin or placebo for three months, followed by a one-month washout period and then by three months of therapy with the alternative agent. Efficacy was judged by improvements in scores on the distribution-of-stiffness index and heightened-sensitivity scale from base line (month 1) to the second and third month of each treatment phase. Direct and carryover effects of treatment were compared in the two groups.

**RESULTS:** Among patients who received immune globulin first, stiffness scores decreased significantly ( $P=0.02$ ) and heightened-sensitivity scores decreased substantially during immune globulin therapy but rebounded during placebo administration. In contrast, the scores in the group that received placebo first remained constant during placebo administration but dropped significantly during immune globulin therapy ( $P=0.01$ ). When the data were analyzed for a direct and a first-order carryover effect, there was a significant difference in stiffness scores ( $P=0.01$  and  $P<0.001$ , respectively) between the immune globulin and placebo groups, and immune globulin therapy had a significant direct treatment effect on sensitivity scores ( $P=0.03$ ). Eleven patients who received immune globulin became able to walk more easily or without assistance, their frequency of falls decreased, and they were able to perform work-related or household tasks. The duration of the beneficial effects of immune globulin varied from six weeks to one year. Anti-GAD65 antibody titers declined after immune globulin therapy but not after placebo administration.

**CONCLUSIONS:** Intravenous immune globulin is a well-tolerated and effective, albeit costly, therapy for patients with stiff-person syndrome and anti-GAD65 antibodies.

PMID: 11756577 [PubMed - indexed for MEDLINE]