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Randomized Controlled Trial      [N Engl J Med](#). 2010 Feb 4;362(5):416-26.

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## A placebo-controlled trial of oral cladribine for relapsing multiple sclerosis

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Collaborators, Affiliations

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### Abstract

**Background:** Cladribine provides immunomodulation through selective targeting of lymphocyte subtypes. We report the results of a 96-week phase 3 trial of a short-course oral tablet therapy in patients with relapsing-remitting multiple sclerosis.

**Methods:** We randomly assigned 1326 patients in an approximate 1:1:1 ratio to receive one of two cumulative doses of cladribine tablets (either 3.5 mg or 5.25 mg per kilogram of body weight) or matching placebo, given in two or four short courses for the first 48 weeks, then in two short courses starting at week 48 and week 52 (for a total of 8 to 20 days per year). The primary end point was the rate of relapse at 96 weeks.

**Results:** Among patients who received cladribine tablets (either 3.5 mg or 5.25 mg per kilogram), there was a significantly lower annualized rate of relapse than in the placebo group (0.14 and 0.15, respectively, vs. 0.33;  $P < 0.001$  for both comparisons), a higher relapse-free rate (79.7% and 78.9%, respectively, vs. 60.9%;  $P < 0.001$  for both comparisons), a lower risk of 3-month sustained progression of disability (hazard ratio for the 3.5-mg group, 0.67; 95% confidence interval [CI], 0.48 to 0.93;  $P = 0.02$ ; and hazard ratio for the 5.25-mg group, 0.69; 95% CI, 0.49 to 0.96;  $P = 0.03$ ), and significant reductions in the brain lesion count on magnetic resonance imaging (MRI) ( $P < 0.001$  for all comparisons). Adverse events that were more frequent in the cladribine groups included lymphocytopenia (21.6% in the 3.5-mg group and 31.5% in the 5.25-mg group, vs. 1.8%) and herpes zoster (8 patients and 12 patients, respectively, vs. no patients).

**Conclusions:** Treatment with cladribine tablets significantly reduced relapse rates, the risk of disability progression, and MRI measures of disease activity at 96 weeks. The benefits need to be weighed against the risks. (ClinicalTrials.gov number, [NCT00213135](#).)

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Mann H.

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PMID: 20449878 No abstract available.

## [ACP Journal Club. Oral cladribine was more effective than placebo for relapsing-remitting multiple sclerosis.](#)

Hughes J.

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 CN - CLARITY Study Group  
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 DEP - 20100120  
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 CIN - Ann Intern Med. 2010 May 18;152(10):JC5-6, JC5-7, JC5-8. PMID: 20479025  
 MH - Administration, Oral  
 MH - Adolescent  
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 MH - Aged  
 MH - Analysis of Variance  
 MH - Brain/pathology  
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MH - Young Adult  
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