Disability progression in a clinical trial of relapsing-remitting multiple sclerosis: eight-year follow-up.

OBJECTIVE: To investigate the value of Expanded Disability Status Scale (EDSS) worsening sustained for at least 6 months and other parameters as predictors for disability status.

DESIGN: Retrospective analysis of the Multiple Sclerosis Collaborative Research Group study data.

SETTING: The intramuscular interferon beta-1a pivotal trial was a double-blind, placebo-controlled phase 3 study.

PARTICIPANTS: Patients with relapsing-remitting multiple sclerosis who received at least 2 years of treatment and completed an EDSS evaluation 8 years postrandomization.

INTERVENTION: Thirty micrograms of intramuscular interferon beta-1a or placebo once weekly during the 2-year clinical trial.

MAIN OUTCOME MEASURES: Positive predictive values for 6-month sustained progression during 2 years were calculated to determine the ability to predict disability status at 8 years. A multivariate logistic regression model was used to assess the relationship between predictors and EDSS milestones at follow-up.
RESULTS: Forty-five patients had sustained 6-month EDSS progression during the clinical trial and 115 did not. Progression during the trial was the strongest predictor of reaching EDSS milestones at the follow-up visit, 8 years after randomization. Other independent predictors were treatment arm assignment and baseline EDSS score.

CONCLUSION: In this phase 3 clinical trial of intramuscular interferon beta-1a, compared with effects of treatment, baseline EDSS score, and number of relapses during the study, worsening of 1 point or more on EDSS from baseline lasting 6 months was the strongest predictor of clinically significant disability 8 years after randomization into the clinical trial.