

INFLUENCE OF INTERFERON-BETA SWITCHING ON NEUTRALISING ANTIBODY TITERS: THE AUSTRIAN SWITCH STUDY (ASS)

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Background: Persisting neutralising antibodies (NAB) are associated with a loss of therapeutic effect of IFN β . Continuous treatment often leads to NAB negativity by re-induction of tolerance. This study investigated the effect of switching between high and low immunogenic IFN β products on NAB titers. Methods: Twenty-four MS patients on IFN β -1a s.c. or IFN β -1b with high NAB titers were included. At baseline IFN β treatment was interrupted for 3 months in all patients and 2 infusions with 1g of methylprednisolone were applied. Then patients were randomized either to their previous treatment or to 30 ug IFN β -1a im. Twelve months later NAB titers were measured. Results: Twelve patients were switched to IFN β -1a im (7 from IFN β -1a sc and 5 from IFN β -1b). Final analysis was available in 22 patients. Median NAB titers were 846 NU at baseline (all patients), 293 NU after corticosteroid treatment, 1226 NU 3 months after switching, and 196 NU at the end of the study. The median change of NAB titers (baseline vs. end of study) was -143 NU in patients switching and -94 NU in patients not switching therapy (not significant). Baseline and end of the study titers correlated significantly ($r = 0.78$). Median EDSS scores progressed significantly from 2.0 to 3.0. Discussion: None of the immunological interventions showed a persistent effect on NAB titers, although corticosteroids led to transient reduction. The main predictor of the final NAB titer was the baseline titer. The significant disease progression underlines again the loss of IFN β therapeutic effects in NAB positive patients.