

Peer reviewed article

Experiences with interferon-beta-1b treatment in MS after three year follow-up

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Interferon-beta-1b (IFN β -1b) was the first drug which has been proven to decrease the number of attacks by 34% in relapsing-remitting multiple sclerosis (MS).

The aim of this open label, observational phase IV study was to evaluate the effect of IFN β -1b on relapse rate in a three-year follow-up. The data of the enrolled patients in the two years prior to the treatment (1995–96) served as control. The trial was carried out between 1996 and 1999. 31 patients with definite MS received 8M IU IFN β -1b sc. every other day. The relapse rate, the

duration of hospitalisation and the steroid needs for treatment of relapses were calculated. Statistical analysis was made by one-way ANOVA. At baseline the mean age was 37 ± 8 years, the mean EDSS score was 1.8 ± 1.2 and the mean duration of the disease was 4 ± 4 years. Before treatment the annual relapse rate was 1.3, while during the treatment it decreased to 0.3 (Table 1). The relapse rate was reduced by 77% compared to pre-study values ($p < 0.001$). Before starting the therapy the patients spent 16.0 ± 2.5 days in the hospital annually. In the three years of IFN β -1b the mean time of hospitalisation decreased by 84% ($p < 0.001$). In the two years preceding IFN β -1b therapy 5.7 ± 1.9 grams of methylprednisolone (MP) / patient were needed for treatment of relapses. During IFN β -1b therapy MP needs were reduced by 75% ($p < 0.001$).

Using the patients as their own controls is a methodological problem in MS, taking into account the more or

less unpredictable course and also the fact that patients initiating treatment may do so in an active phase of the disease with consecutive spontaneous regression to the mean. Nevertheless, the magnitude of the change observed in this study supports a positive effect of IFN β -1b on the disease under everyday practice conditions.

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Reference

- 1 The IFN β Multiple Sclerosis Study Group: Interferon beta-1b is effective in relapsing-remitting multiple sclerosis. 1. Clinical results of a multicenter, randomized, double blind, placebo-controlled trial. *Neurology* 1993;43:655–61.

Table 1

Differences observed during the 3 years of IFN β -1b treatment (mean \pm SD).

years	-2	-1	+1	+2	+3
no. of relapses / patient	1.0 ± 0.5	1.6 ± 0.6	0.4 ± 0.5	0.4 ± 0.4	0.2 ± 0.4
days of hospitalisation / patient	14 ± 10	18 ± 11	3.5 ± 6.8	3.1 ± 5.2	0.7 ± 2.1
need of steroid (g) / patient	4.3 ± 2.8	7.0 ± 2.5	1.7 ± 2.9	1.7 ± 2.4	0.6 ± 1.6

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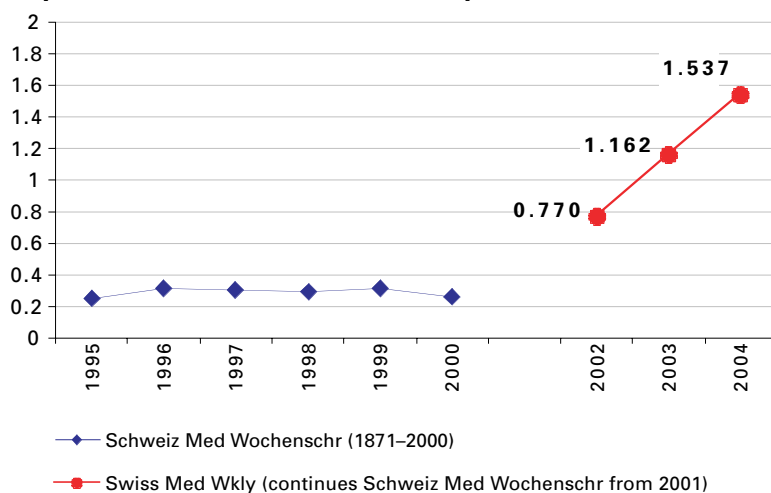
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