

## Recombinant hepatitis B vaccine and the risk of multiple sclerosis

*To the Editor:* Hernan et al. (September 14 issue) report a higher risk of developing multiple sclerosis (MS) after HepB vaccination but they failed to give an explanation for this phenomenon. Since metals are known to be potent inducers of autoimmune diseases, one should look to the kind of metals (thimerosal, aluminium hydroxyphosphate sulfate) used as preservatives in HepB-vaccines in the study period. Thimerosal induces autoimmunity in genetically susceptible mice.<sup>1</sup> This indicates that individual susceptibilities to metal sensitization or toxicity may exist. Inorganic mercury also leads to apoptosis in oligodendrocytes.<sup>2</sup> Thus, it may be possible that mercury from thimerosal is involved in the pathogenesis of MS.

Since 93% of the MS cases were not vaccinated with HepB during the 3-year period preceding disease onset, one should look to other possible sources of mercury exposure.

A correlation between MS prevalence and the prevalence of caries and dental amalgam was observed from a Swiss neurosurgeon Dr. E. Baasch already in 1966.<sup>3</sup> Amalgam consists of 50% elementary mercury, and it is well known that mercury vapor is released from amalgam. In 1991, the WHO panel stated that dental amalgam is the most important source of mercury in humans.

A recently published study has shown that about 70% of patients with autoimmune diseases, including MS, recovered after removal of dental amalgam.<sup>4</sup> Other researchers have shown that MS patients with dental amalgam had significantly more exacerbations during the past 12 months compared to MS patients who had had their amalgam fillings removed.<sup>5</sup> As mentioned by Hernan et al.<sup>1</sup>, one problem in most other studies examining the impact of vaccinations or dental amalgam on MS is that the dental status before or immediately at onset of MS was not considered.

Because they obtained data before onset of MS, we would encourage Hernan et al. also to examine the amount of dental amalgam fillings in the study population.

- 1 [Hornig M, Chian D, Lipkin WI](#). Neurotoxic effects of postnatal thimerosal are mouse strain dependent. *Mol Psychiatry* 2004;9:833-845.
- 2 [Issa Y, Watts DC, Duxbury AJ, Brunton PA, Watson MB, Waters CM](#). Mercuric chloride: toxicity and apoptosis in a human oligodendroglial cell line MO3.13. *Biomaterials* 2003;24:981-987.
- 3 [Baasch E](#). Theoretical considerations on the etiology of multiple sclerosis. Is multiple sclerosis a mercury allergy? *Schweiz Arch Neurol Neurochir Psychiatr* 1966;98:1-19.
- 4 [Prochazkova J, Sterzl I, Kucerova H, Bartova J, Stejskal VD](#). The beneficial effect of amalgam replacement on health in patients with autoimmunity. *Neuro Endocrinol Lett* 2004;25:211-218.
- 5 [Siblerud RL, Kienholz E](#). Evidence that mercury from silver dental fillings may be an etiological factor in multiple sclerosis. *Sci Total Environ* 1994;142:191-205.

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