

Letter to the Editor

Thimerosal is unrelated to autoimmune autism

Dear Dr Warner,

This is a brief response to the Letter to Editor by Dr Gianpaolo Guzzi.

Dr Guzzi has drawn attention to some of the important issues for toxicological aspects of exposure to mercury, in particular thimerosal that contains ethylmercury attached to thiosalicylic moiety. This concerns our recently published paper entitled 'Assessment of metallothionein and antibodies to metallothionein in normal and autistic children having exposure to vaccine-derived thimerosal' in *Pediatric Allergy and Immunology* 17: 291–296; 2006. Dr Guzzi made three observations from our study: (1) we did not provide the time between the last inoculation and the blood draw for metallothionein assessment and did not measure MT and MT antibodies in renal injury, (2) we did not account for the consumption of fish that may represent an important source of mercury, and (3) ethylmercury is thought to be toxicologically similar to methylmercury it is unclear whether it is able to induce or increase MT at the molecular level.

First of all, Dr Guzzi's comments are important and relevant to the toxicological aspects of ethylmercury-containing chemical thimerosal. Unfortunately, there is very little experimental investigation on this topic. We did not deliberately omit any information it was either not available or impertinent. Our study was a retrospective study and we did not have precise information for the time lapsed between the last inoculation and blood draw. A prospective study is desirable and Dr Guzzi should perhaps conduct it. As far we know none of the children in our study had any clinical signs of renal injury

and so the concern of renal injury is perhaps irrelevant to our findings.

Secondly, concerning the fish as an important source of mercury, our attempts to gather this information retrospectively revealed that the children in our study did not consume fish, at least that's what the parents told us. But we feel that this topic should be investigated through scientifically rigorous methods.

Thirdly, Dr Guzzi states that ethylmercury is thought to be toxicologically similar to methylmercury and so it is unclear whether it is able to induce or increase MT, triggering cellular metabolism at the molecular level. Although what is 'thought' to be must be 'experimentally' tested, we agree with Dr Guzzi and do not know if ethylmercury is able to bring about metabolic changes at the molecular level.

Finally, we would like to draw attention to the fact that our study was designed to examine fluctuations of MT and antibodies to MT proteins that might exist in autistic children if the exposure to trace amounts of thimerosal from vaccines was somehow toxic to these children. It was not designed to investigate the toxicity of thimerosal-containing ethylmercury in children. Nevertheless, the outcome of our retrospective study was a negative result and did not support the idea that autoimmunity in autistic children might be induced by vaccine-derived thimerosal.

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