Reviewer’s report

Title: Fever due to cracked mercury dental amalgam: a case report

Version: 3 Date: 12 December 2007

Reviewer: Joachim Mutter

I am familiar with the literature and believe that this case meets one of the 7 criteria for evaluation in the journal: Findings that shed new light on the possible pathogenesis of a disease or an adverse effect

Has the case been reported coherently?: Yes

Is the case report authentic?: Yes

Is this case worth reporting?: Yes

Is the case report persuasive?: Yes

Does the case report have explanatory value?: Yes

Does the case report have diagnostic value?: Yes

Will the case report make a difference to clinical practice?: Yes

Comments to authors:

General

The authors present a case with unknown symptoms which may be related due to increased mercury exposure through a broken dental amalgam. They also review the very important question of the impact of additional low dose mercury exposure (mainly amalgam) on public Health.

Because of the spread and actually rising world wide use of dental amalgam (undeveloped countries!), even subtle effects cause a significant health problem. In fact, mercury is assumed to be the sixth most toxic in a universe of 6 million substances (Nascimento and Chartone-Souza, 2003) and the most toxic non-radioactive element. Any additional exposure to this element may be associated with negative health effects.

Autopsy studies show clearly that amalgam bearers have up to 10 times more Hg in organs. About 80% of human Hg is derived from dental amalgam. Thus, for the major part of the population amalgam contributes more to mercury burden than fish consumption. Interestingly, dental boards also still claim that amalgam contributes only little or negligibly to the mercury load of man.

In contrast to methyl-Hg, there are no studies on mercury vapour that, establish a
safety limit. Furthermore, there is mounting evidence that mercury concentrations in blood and urine do not adequately represent the actual mercury body load.

Fish consumption (this belongs to the species of consumed fish- see controversial data from the Faroe- Isles and the Seychelles) may protect from its mercury toxicity. Furthermore, the toxicity of methyl mercury (Me-Hg), which is bound to cystein or selenium in fish, seems to be far lower than Me-Hg-Cl or Me-Hg-J usually used in experiments

In this case report, mercury levels in biomarkers was not increased, but the levels in critical body tissues are suspected to be higher. Further, the impact from fish consumption seem to be low, as is in the general population. Because of the time dependend increase and decrease of sytmtomes and the broken amalgam filling, this seem to be the cause of the complaints.

No Revisions necessary for publication

What next?: Accept

Quality of written English: Acceptable