Open letter to Dr. Grandjean

April 8, 2008

We are most grateful, Professor Grandjean, for obtaining, in June 2003, thanks to your admirable study on the Faroe Islands and after years of hard fighting, the division by two of the provisional tolerable weekly intake (PTWI) for methylmercury (MeHg), the new recommendation by the JECFA/WHO taking at last into account the high vulnerability of the developing brain (embryo, fetus and child).

Furthermore, Anna Choi and yourself have deplored in a recent article (1) the incredible delay health authorities observed in acknowledging a study on the consequences of chronic methylmercury poisoning in **Minamata**'s inhabitants, this study dating back to… 1971: *«As epidemiologists, we must recognize an important warning reflected by this delayed paper on Minamata disease.* ***For decades, scientific uncertainties on mercury led to exaggerated controversies that delayed preventive action. However, when uncertainties are interpreted as support of the null hypothesis, the costs to human health and society can be enormous****».*

Today you have come to call our attention on European children's exposure to chemical substances, generating inequalities, notably by impairing the neurocognitive development. **It is indeed urgent to worry about rapidly reducing the exposure of all European children to chemical contaminants, notably neurotoxic and reprotoxic substances.**

This lead us back, among others, to mercury, and more specifically to the **elementary mercury contained in dental amalgams, widely acknowledged to be the greatest source of mercury exposure in developed countries** (WHO 1991).

Mercury exposure from dental amalgams has not caused any spectacular poisoning as in Minamata, none the less, poisoning occurs continually and insidiously on millions of European children, and starting as early as their conception and even before. Several scientific studies tend to indicate that exposure to mercury from dental amalgams leads to **loss of Intelligence Quotient points, triggers autism and later on Alzheimer's disease or other neurodegenerative diseases**. Elementary mercury contained in dental amalgams (half) is indeed, just as MeHg, an **known neurotoxic and reprotoxic**, as well as a **immunotoxic** and a **nephrotoxic**, ranked into **CMRs** (carcinogenic, mutagenic and reprotoxic substances) of very high concern. Let us stress out at this point that **dental amalgams**, just like other dental materials, have **never been subjected to toxicity tests as part of market authorization**, which seems incongruous.

However, it is however unquestionable that **elementary mercury** (Hg) **released by amalgams** is inhaled, migrates into the blood stream (up to 80%) then **impregnates the placenta** and **accumulates** further on **into the organs of the fetus and the infant**: mercury concentration in the placenta, the umbilical cord and the cerebellar cortex of the young child is perfectly correlated with the number of dental amalgams of the mother (2, 3, 4 & 5). Furthermore, while consumption of big carnivorous fish constitutes the major intake of methylmercury nevertheless the latter is also formed by oral bacteria, in small quantities but continually, inside our mouths from inorganic mercury released by dental amalgams (6), which is widely unknown by scientists: **amalgam occurrence in the mother is thus a source of continuous exposure to methylmercury for the embryo and the fetus** (moreover without protective selenium, unlike fish). Mercury concentration in **breast milk** is also strongly linked to the number of amalgams (7), its major mercury source, which may lead to exceedance of WHO's PTWI for one infant out of two (8). Yet, considering mercury's high toxicity and in particular its immunotoxic effects, **it does not appear possible to ascertain what level of exposure to mercury is without risk** (9).

Just as you have soundly done so for methylmercury, **Scientists have been trying for long to alert health authorities on the risks for the child and the to-be adult linked to mercury use in dental care**. However, even more so than in the case of MeHG, controversy has impeded any decision regarding public health. Numerous "studies" by dentists and published in dental journals, with arguable deontology and numerous bias, are used in official expertises. The most recent one, which is to ascertain whether or not dental amalgam in Europe should be further in use, has been undertaken by the SCENIHR (Scientific Committee on Emerging and Newly Identified Health Risks) on request of the European Commission and published in November 2007. This Committee has chosen to rely on four external experts, also members of the dental profession (*) and obviously strongly pro-amalgam when they are supposed to evaluate this material (**). After a neat selection of scientific bibliography (one study out of two is from a dental journal), these experts have, unsurprisingly, concluded on the harmlessness of dental amalgams: *«With respect to populations at risk, there is a lack of information about effects in pregnant women. There is no evidence to suggest that pre-existing amalgam restorations pose any risk as far as the health of such women and the developing fetus is concerned […]».* This conclusion is in complete contradiction with the official Swedish report (10) supervised by Maths Berlin and drawn up by world-renowned experts on mercury toxicity. This report had concluded in 2003: *«[…]* ***With reference to the risk of inhibiting influence on the growing brain, it is not compatible with science and well-tried experience to use amalgam fillings in children and fertile women*** *».*

Fortunately, several European countries have decided to protect their population from the dangers of mercury: Sweden has discontinued dental amalgams reimbursement since 1999, till a ban on the short run; Norway has banned them since January 2008 and Denmark should soon do the same.

We can not accept this inequality in mercury exposure of European children, only those of the northern part of the EU being protected. We think that children's health should come before any kind of economic consideration.

Dr. Grandjean, as one of the international specialist on child's exposure to mercury, you are not unaware that their major source of exposure comes from dental amalgams. It seems obvious that your implication in this fight against dental mercury use is essential so that inequality to exposure of European children should be replaced by equality in protection.

Signatures :

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** The French Member of this Committee, an expert with the dental branch of the AFSSAPS, has published on the end of February 2008, in a journal distibuted to 17.000 dentists, a sulfurous article against Norway's decision to ban amalgamsn not hesistating to insult the Minister: "*One should raise a statue to her effigy and her spectacular stupidity* " and Norwegians "*These Vikings are crazy!".*

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