Are We All Poisoned?

EVERYONE IS TOXIC!

In September 2005, Greenpeace International with the World Wildlife Fund, published a document entitled "Present for Life: Hazardous Chemicals in Umbilical Cord Blood." The research was a real eye-opener as it showed convincingly that newborns tested for hundreds of different xenobiotics showed high numbers and levels of these toxins. Specifically, the blood tests showed that these newborns had an average of 287 toxins in their bodies, 180 of these are known carcinogens. Some of these chemicals included the commonly used artificial musk HHCB, which was found in almost all blood samples and at higher levels than the other artificial musks. Musk ambrette, a chemical banned for use in cosmetics in the EU since 1995, was still found in 15 maternal and 12 cord blood samples.

Other banned alkylphenol compounds (nonylphenol) extensively used in industrial cleaning agents were also found. This study also quantifies the antibacterial agent triclosan in human blood; this chemical was found in almost 50% of the samples. DDT, the notorious pesticide that is banned for agricultural use worldwide but which is still used in some places to control malaria, was still found in virtually all blood samples. Similarly, the organochlorine by-product and pesticide hexachlorobenzene - also subject

to a global ban - was found in the samples. Perfluorinated compounds like PFOS and PFOA, used to make non-stick pans and water repelling coatings, were present in all but one maternal blood sample. PFOS was detected in all cord blood samples and PFOA in half of them.

We could make the assumption that this study was conducted in America where the level of toxicity is probably higher, compared to other countries. In order to address this question, let's examine a similar study conducted on pregnant women living in the North Pole where generally most people feel is a clean part of the earth! The research was published in *The Science of the Total Environment* and was entitled, "Organochlorines and heavy metals in pregnant women from the Disko Bay area in Greenland"

The study showed high concentrations of heavy metals, such as mercury, and organochlorines in the blood and fatty tissue of the Inuit. This is attributed in particular to their high consumption of the meat and blubber of marine mammals. In this present study, 180 pregnant women and 178 newborn babies were studied, amounting to 36% of the total number of births in the Disko Bay area during 1994]1996.

The pesticides found in the highest concentrations in maternal blood were DDE_4.8 mgrl wet wt.., trans-nonachlor_1.6 mgrl.and hexachlorobenzene_1.2 mgrl.while the total concentration of PCB_Aroclor 1260. was 19.1 mgrl. Calculated on a lipid basis, concentrations were slightly higher in maternal than in cord blood. The mercury concentrations were 16.8 mgrl in maternal blood and 35.6 mgrl in cord blood. In a linear regression analysis, the concentrations of organochlorines, mercury and selenium increased with maternal age.

Concentrations of mercury and cadmium increased with the consumption of marine mammals, and cadmium was associated with smoking. The contaminants are potentially toxic for several organ systems but the high concentrations of pollutants have so far not been shown to influence health in Greenland. Similar studies have also

shown that wildlife in the arctic circle are also being killed due to high levels of toxic chemicals in their environment. The study showed that several arctic mammal and bird species that indicate chemical exposures are likely adversely affecting the health of these species. Some of the effects seen are potentially quite serious (e.g. immune suppression, hormone disturbances, altered behavior).

Even if one may think that they may avoid all chemical toxicity, EMFs from our environment poison us all.

Neurotoxicity

A further study published in the journal Environmental Research has shown that there is a correlation between the levels of methylmercury in the pregnant and lactating mother's blood and urine and that of her newborn child. It is clear that toxins from the mother can pass through the placenta into the baby. Another study published in 2001 in Neurotoxicology showed that the level of mercury in baby's hair was quite high and argues that this is probably a consequence of vaccinations that contain mercury added as a preservative called Thirmerosal.

Vaccinations

There is a lot of research indicating the health effects of high mercury levels on children, including the relationship of these chemical toxins to developmental delays. Add to this the levels of mercury found in adults due to amalgam fillings and there is further conclusive evidence that "we are all toxic." The research concludes that hazardous chemicals are common contaminants in both maternal and umbilical cord blood, indicating that these chemicals can pass from the mother to the baby across the placenta.

 The main conclusion is that if these chemicals are present in newborns, then what is the probability that these toxic chemicals are also present in us adults and our children? Before we leave the Arctic Circle, there is another interesting study entitled, "Human health implications of environmental contaminants in Arctic Canada: a review" published in *The Science of the Total Environment* that has looked at the how the Inuit Eskimos are being exposed to chemicals such as chlordane, toxaphene pesticides as well as PCBs. Another fascinating study conducted by the World Wildlife Fund set out to explore whether there was any relationship between the types and levels of contamination found in three generations of families, and to examine possible links between contamination and a family's lifestyle, consumption patterns and everyday products.

The report entitled, "Contamination: The Next Generation" summarizes the findings of the analysis of 104 different chemicals in the blood of 33 volunteers from seven families living in England, Scotland and Wales. The volunteers in each family spanned three generations, generally comprising the grandmother, mother and two children. The volunteers comprised 14 children, 13 adults and six grandmothers. The ages of the volunteers ranged from nine years to 88 years. All three generations tested, including the children, were contaminated by a cocktail of hazardous man-made chemicals. The results reveal that every child, from as young as nine years (none younger were tested), was contaminated by the same range of hazardous chemicals: organochlorine pesticides, PCBs, brominated flame-retardants, phthalates and perfluorinated ("non-stick") chemicals.

Inherited Toxicity

Five chemicals found in each parent and grandparent were also found in every child. While it might be expected that chemical burden increases with age, this study has shown that this conventional assumption is not always true: children can be more contaminated by higher numbers and levels of certain "newer" chemicals than their

parents or even their grandparents, despite being exposed to these chemicals for only a fraction of the time. These "newer" chemicals include brominated flame retardants (used in sofas, textiles and electrical appliances) and perfluorinated chemicals (used in the manufacture of non-stick pans, coatings for takeaway food packaging and treatments for carpets, furniture, clothing and footwear).

The results also show that chemicals in everyday products around the home are contaminating the blood of all the families tested in the survey, including the children. For example, fifty seven per cent of the seven people found to be contaminated by deca-BDE, a brominated flame retardant, were children. Of the volunteers tested, 82 per cent were contaminated by one or more perfluorinated chemical. The perfluorinated chemical PFOA (perfluorooctanoic acid) was found in more than a third of the children tested. A related chemical PFOS (perfluorooctane sulphonate) was found in five of the family members tested.

There have been similar studies in the USA too - in July 2005, the Department of Health and Human Services, Centres for Disease Control and Prevention, USA, published a 475-page document entitled, "Third National Report on Human Exposure to Environmental Chemicals" which clearly indicates the growing number of chemical toxins present in all age-groups in the USA. The American Council on Science and Health published a document in May 2003 entitled, "Traces of Environmental Chemicals in the Human Body: Are they a risk to Health?" This research looked at the different types of xenobiotics found in US citizens, as well as their quantity.

While chemicals that have been banned for many years are still being detected, generally there is a downward trend with up to 90% reduction in the last few decades of toxins such as DDT and lead. Toxicologists studying chemical toxicity usually have a reference range of values which indicate the "safe levels" of these chemicals. New research is showing, however, that even low-dose exposure is cumulative over time and can lead to children having decreased performance in areas of motor function and memory. Similarly, disruption of attention, fine motor function and verbal memory was also found in adults on exposure to low mercury levels.

It is an occupational hazard for dental staff, chloralkali factory workers and goldminers, etc. Mercury has been found to be a causative agent of various sorts of disorders, including neurological, nephrological, immunological, cardiac, motor, reproductive and even genetic. Recently heavy metal mediated toxicity has been linked to diseases like Alzeihemer's, Parkinson's, Autism, Lupus, Amyotrophic lateral sclerosis, etc. Besides this, it poses danger to wildlife. This low-dose toxicity and its effects on health will be the toxicologists next goal for future research.

Our Food Supply

Of the roughly 5,000 substances that can be directly added to food, the FDA has no knowledge whatsoever of an estimated 1,000 of them. And more disturbingly, fewer than half of those 4,000 substances known to the FDA have ever gone through the sort of testing you might hope something you're feeding yourself and your kids would be subjected to, namely toxicology tests on mice or rats. On top of that, a scant few additives have been tested according to the way they're actually consumed—that is, in combination with a multitude of other additives.

Consequently, there are substances in our food that function efficiently as preservatives or manufacturing aids, but that have questionable effects on our health. Just to name a few, there is BHA, a known carcinogen found in things like Tang, Kool-Aid, DiGiorno pepperoni pizza, and McDonald's sausages and breakfast steak; azodicarbonamide, a flammable, pseudo-edible chemical used widely in bread making that tests have shown breaks down into a carcinogenic compound when heated; and brominated vegetable oil, an ingredient in Gatorade and the subject of a recent, widely circulated petition by an enterprising 15-year old from Mississippi. In the 1970s, the FDA allowed brominated vegetable oil's legal status to continue pending more studies, which haven't materialized.

To your healing,

Dr. Kevin Conners