FDA says mercury dental fillings not harmful

WASHINGTON, DC, USA: The US Food and Drug Administration said recently silver-coloured dental fillings that contain mercury are safe for patients, reversing an earlier caution against their use in certain patients, including pregnant women and children. While elemental mercury has been associated with adverse health effects at high exposures, the levels released by dental amalgam fillings are not high enough to cause harm in patients, the FDA said, citing an agency review of roughly 200 scientific studies.

In 2006, Moms Against Mercury and three other groups sued the FDA to have mercury fillings removed from the US market. Later that year, an FDA panel of outside experts said most people would not be harmed but that more information was needed.

But Susan Runner, acting director for the FDA division that oversees dental devices, said there was no “causal link” between amalgam fillings and health problems. “The best available scientific evidence supports the conclusion that patients with dental amalgam fillings are not at risk,” she told reporters on a conference call. Over the past 20 years, the agency has received just 141 reports of problems in patients with the fillings, she added.

That conclusion counters a statement the agency made last June that the fillings may cause health problems in pregnant women, children and fetuses.

The FDA’s decision could impact makers of metal fillings, which include Dentsply International Inc and Danaher Corp’s unit Kerr, as well as distributors such as Henry Schein Inc and Patterson Cos Inc.

According to the American Dental Association (ADA), about 30 per cent of fillings given to patients are mercury-filled, with a growing number of patients instead opting for lighter, tooth-coloured options such as resin composites. The ADA, which represents the dental industry, backed the FDA’s decision not to restrict mercury fillings, saying alternatives are also considered “moderate risk” by the FDA. “The FDA has left the decision about dental treatment right where it needs to be—between the dentist and the patient,” ADA President Dr John Findley said in a statement.

But Charlie Brown, a lawyer for Consumers for Dental Choice, said poorer people or those who receive their health care through large institutions such as the US military are more likely to receive the cheaper, silver-coloured fillings and are at greater risk for harm.

“Most consumers, and most dentists, have already switched to the main alternative, resin composite,” said Brown, whose group was part of the lawsuit settlement last June that called on the agency to issue more specific rules. His group is now weighing its legal options, he said.

Moms Against Mercury President Amy Carson said she was disappointed in the FDA’s reversal. Her group, along with several others, filed a new petition with the FDA on Tuesday, again calling for a ban on mercury fillings, she added.

(Edited by Daniel Zimmermann)
Universities in the UK are reported to exploit a government policy that keeps British applicants out, while leaving no restrictions in terms of international applicants. According to newest figures released by the Higher Education Statistics Agency in London, the number of domestic higher education (HE) students enrolling at UK universities has stalled lately, while that of students coming to study from overseas has continued to rise.

After the US, Britain is currently the second most popular choice of destination for HE students. More than one university student in seven is from outside Britain, and those from outside the EU bring in 8 to 10 per cent of the total income of British universities, paying almost £1.9 billion in tuition fees last year.

The government has refused to fund enough places in order to accept extra applicants from the UK, even though the statistics are dampening hopes of the current administration of reaching the target of 50 per cent of 18- to 30-year-olds with a university education by 2010. Even after clearance, some 20,000 to 40,000 are expected to be left with no place at all this autumn.

Currently, there are 8,500 students enrolled in UK dental schools, of which 750 are from outside the EU.

Universities of Kent students celebrate graduation in 2008. (DTI/Photo Courtesy by The University of Kent)
“These are exciting times in which we live”

An interview with Prof. Thimios Mitsiadis, Head of the Institute for Oral Biology at the University of Zurich, on stem cell research in dentistry

DTI: Prof. Mitsiadis, which factors determine the formation of enamel?

Prof. Thimios Mitsiadis: This is a very complex process, which is determined by the dental epithelium at a very early stage and different from that of the skin epithelium that covers the body. There is a multitude of transcription factors, one of which is Ptx2, which governs the formation of oral and dental epithelium. Based on this, there are other transcription factors. At the moment, we only know of Tbx1, which co-forms the ameloblasts. Of course, there are further transcription factors that we do not yet know much about and that are regulated by certain growth factors. The transcription factors occur within a very tight time frame to form enamel. It is a highly complex process from the beginning to the final formation.

Which factors may disrupt the formation of enamel?

Dental enamel can be damaged from the start because there are genetic factors that disrupt the correct formation of enamel. However, epigenetic factors that occur during the course of a pregnancy, for example, result in a deterioration of dental enamel through discolouration.

In addition, we are currently examining the effects of fluoride. Fluoride protects the tooth but may also lead to its decomposition during the process of dental enamel formation. Other epigenetic factors, such as the consumption of alcohol, can affect the formation of dental enamel.

Dental erosion is a growing problem, which is certainly driven by the increase in life expectancy. However, statistics demonstrate that younger patients are also increasingly being affected. What is the cause of this development from your point of view?

Yes, it is a fact that loss of enamel has been detected mostly in elderly people. In my opinion, two factors have to be considered here. Nowadays, we know much about prevention, but in the past many people did not take care of their teeth sufficiently. General health conditions and other diseases were considered more important. Research and medication in these areas have improved significantly. Over time, however, we realised that we had not paid sufficient attention to our many dental problems.

Another possible reason is migration. We tend to travel more and live in various countries. For example, I was born in Greece, but now live in Spain with my Spanish wife. My children, therefore, possess features of both nations. This may result in abnormalities and deterioration of enamel.

What innovative perspectives have arisen from these new findings?

These are exciting times in which we live. It is evident that in the near future—in about 20 to 50 years—we will be able to create new tissue with the aid of microbiology and genetics. Clinical studies that examine the use of dental stem cells for the regeneration of jaw bone are already underway. This is proof that progress in this regard is being made. We just need more information on how to achieve natural protection.

What progress has been made in stem cell research for the formation of enamel?

We recently formed a European consortium with researchers working with stem cells in Germany, Finland, Switzerland, Italy and France. The consortium’s objective is to isolate stem cells from teeth, the face and the head, and to use them to generate products. With stem cells, for example, natural implants could be produced. There are also tests being conducted in Italy to recreate teeth, but in my opinion this is far too complex to be realised at the moment. At this stage, we should only concentrate on creating tissue as a replacement for damaged or destroyed material, such as dentine and dental tissue.

Thank you very much for the interview.

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