A Case of Severe Mercury Intoxication with Unknown Source

Bilinmeyen Kaynaktan Şiddetli Merkür İntoksikasyonun Olgusu

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To the Editor,

With great interest we read an article by Gündüzöz et al. entitled "A Case of Severe Mercury Intoxication with Unknown Source" that is published in the JCAM July 2014, DOI: 10.4328/JCAM.2621[1]. In this article, the authors presented a 43 year-old male with non-specific symptoms such as severe taste disorder, metallic taste in mouth, weight loss and severe sleep disorder. Gündüzöz et al. reported that they could not find the origin of mercury exposure in their patient. Interestingly, they also reported that in physical examination of the patient's tongue, four amalgam fillings were observed. Unfortunately, these authors did not rule out the significant role of the exposure of dental amalgam restorations to common sources of electromagnetic fields (e.g. Wi-Fi, mobile phones and mobile base stations) in enhancing the release of mercury from dental amalgam fillings. Over the past several years, our lab at the Ionizing and Non-ionizing Radiation Protection Research Center (INIRPRC) has performed extensive experiments on the health effects of exposure of animal models and humans to different sources of electromagnetic fields such as cellular phones [2-9], mobile base stations [10], mobile phone jammers [11], laptop computers [12], radars [3], dentistry cavitrons [13] and MRI [14, 15].

In 2008, we published our first report on the role of exposure to MRI or microwave radiation emitted by mobile phones in enhancing the release of mercury from dental amalgam restoration[8]. On the other hand, we have recently studied the effects of stronger magnetic fields (1.5 T in our recent study vs. 0.25 T in our previous report) and found further evidence which support the adverse effect of MRI in increasing the release of mercury from dental amalgam fillings[16]. It should be noted that results obtained in microleakage studies also confirm that exposure of amalgam to electromagnetic fields accelerates the microleakage of amalgam [17, 18]. Moreover, we have shown that a few published papers which reported no increased release of mercury after MRI, may have some methodological flaws [19].

Therefore, we strongly believe that the role of rapidly increasing exposure to different sources of electromagnetic fields (e.g. Wi-Fi, mobile phones, mobile base stations) in increasing mercury release from dental amalgam restorations is simply ignored in the study of Gündüzöz et al. We hope that these comments will be useful in better understanding of the challenging issue of increased release of mercury from dental amalgam restoration after exposure to electromagnetic fields and obtaining more credible results in the future.

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Competing interests

The authors declare that they have no competing interests.

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