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TAKE-HOME MESSAGE

- We found a significant increase in the release of mercury from dental amalgam fillings if MRI is done within 24 hrs of amalgam restoration that lasts up to 72 hrs of MRI.
- Mercury is one of the most toxic nonradioactive elements.
- Dental amalgam that is one of the most commonly used materials in restorative dentistry, consists of around 50% elemental mercury and a mixture of silver, tin, copper, and zinc.
- As children and some adults tend to be more sensitive to mercury, it is better clinicians use alternatives to amalgam in these groups, if possible.

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Brief Report

High-Field MRI and Mercury Release from Dental Amalgam Fillings

SMJ Mortazavi^a, M Neghab^b, SMH Anooosheh^c, N Bahaeddini^d, G Mortazavi^e, P Neghab^f, A Rajaeifard^g

Abstract

Mercury is among the most toxic nonradioactive elements which may cause toxicity even at low doses. Some studies showed release of mercury from dental amalgam fillings in individuals who used mobile phone. This study was conducted to assess the effect of high-field MRI on mercury release from dental amalgam filling. We studied two groups of students with identical tooth decays requiring a similar pattern of restorative dentistry. They were exposed to a magnetic flux density of 1.5 T produced by a MRI machine. 16 otherwise healthy students with identical dental decay participated in this study. They underwent similar restorative dentistry procedures and randomly divided into two groups of MRI-exposed and control arms. Urinary concentrations of mercury in the control subjects were measured before (hour 0) and 48 and 72 hrs after amalgam restoration, using cold vapor atomic absorption spectrometry. Urinary concentrations of mercury in exposed individuals were administered before (hour 0),

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No Effect Reports in the Literature

- We have also shown that a few published papers which reported no increased release of mercury after MRI, may have severe methodological flaws.

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LETTER TO THE EDITOR

Effects of X-rays and magnetic resonance imaging on mercury release from dental amalgam into artificial saliva

S. M. A. Mortazavi - Ghazal Mortazavi

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Keywords Mercury release · Amalgam · MRI · X-ray · Electromagnetic fields

Dear Editor,
We wish to express our concerns with an article by Karan et al. entitled "Effects of X-rays and magnetic resonance imaging on mercury release from dental amalgam into artificial saliva" that is published in the Oral Radiol 30(142-146) (2014). In this article, the authors have conducted an experiment to investigate if exposure to X-rays or magnetic resonance imaging (MRI) can affect the release of mercury

magnetic fields (1.5 vs. 0.25 T in our early report) and our new findings provided further support for the adverse effect of MRI on increased release of mercury from dental amalgam fillings [1]. We believe that the paper published by Karan et al. has a serious flaw. The authors stated "After exposure, each sample was poured into a 100 ml. glass tube. The samples were then divided into three groups and left to settle for 1, 2, or 24 h. An equal number of amalgam samples (34 samples) was treated as a control group and not exposed to any processing". As these authors did not measure the mercury level before the exposure, their findings can be results obtained for some reason confounding factors such as

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Abstract

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Should pregnant women with dental amalgam fillings limit their exposure to electromagnetic fields to prevent the toxic effects of mercury in their foetuses?

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Author information

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Letter to the Editor

Should pregnant women with dental amalgam fillings limit their exposure to electromagnetic fields to prevent the toxic effects of mercury in their foetuses?

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Exposure to Electromagnetic Fields as a Hazard for People with Dental Amalgam Restorations

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ABSTRACT: Over the past several years, our lab has been studying the health effects of exposure of laboratory animals and humans to different sources of electromagnetic fields such as mobile phones and their base stations, mobile phone jammers, laptop computers, radars, dentistry cavities and MRI fillings. Substantial evidence indicates that mercury even at low doses may cause toxicity. We have previously shown that exposure to MRI or microwave radiation emitted by mobile phones increase the release of mercury from dental amalgam fillings. Furthermore, our recent studies on the effects of stronger magnetic fields provided further support for our previous findings. On the other hand, we have also shown that papers which reported no increased release of mercury after MRI may have some methodological flaws. As children and some people are more sensitive to the effects of exposure to any chemical

increased mercury release from dental amalgam after exposure to electromagnetic fields in children, people who are routinely exposed to electromagnetic fields and hypersensitive subpopulations.

IL EMF AND AMALGAM CONCERNS

Our first report on the role of exposure to magnetic resonance imaging (MRI) or microwave radiation emitted by mobile phones in enhancing the release of mercury from dental amalgam restoration was published in 2008 [7]. Furthermore, 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 provided further support for the adverse effect of MRI in increasing the release of mercury from dental amalgam fillings [8]. We have also shown that a few published papers which

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Letter to Editor

Amalgam Contact Hypersensitivity Lesion: An Unusual Presentation-Report of a Rare Case

Dear Sir,
With great interest we read an article by Kristin *et al.* entitled "Amalgam contact hypersensitivity lesion (ACHL): An unusual presentation report of a rare case" that is published in the *Ann Med Health Sci Res* 2014;4, Suppl S3:320-3. In this article, the authors report a case of ACHL in a 30-year-old female with pinpointed lesion in close contact with amalgam restorations. They also state that the lesion considerably regressed after replacement of the amalgam restoration with posterior composites. Interestingly, these authors clearly confirmed that hypersensitivity to amalgam might be attributed to mercury in amalgams, but they did not rule out the significant role of exposure to common sources of electromagnetic fields (e.g. Wi-Fi, mobile phones and mobile base stations) in intensifying the release of mercury from dental amalgam restorations. Over the past years, our laboratory has focused on studying the health effects of exposure to some common and/or occupational sources of electromagnetic fields (EMFs) (Ghazali Mortazavi (Ph.D.) and SMJ Mortazavi (Ph.D.)).

groups, including pregnant women, small children, elderly and people who are especially sensitive to mercury, might be different.¹⁻³ We have also shown that a few published papers which reported no increased release of mercury after MRI, may have some methodological flaws.³

Therefore, we would like to strongly stress this point 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 should be closely investigated in hypersensitive patients such as the case reported in Kristin's study. We hope that these comments will be useful in obtaining more credible results in the future.

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References

- Mortazavi SM, Dase E, Yazdi A, Khabazi K, Kavousi A, Yazdipoor E, *et al.* Mercury release from dental amalgam restorations after magnetic resonance imaging and following mobile phone use. *Pol J Med Sci* 2003;114:54.
- Mortazavi SM, Negahb M, Anooobeh SM, Bahadrdini N, Mortazavi G, Negahb P, *et al.* High-field MRI and mercury release from dental amalgam fillings. *Int J Occup Environ Health* 2014;5:407-8.

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Figure
Human exposure to electromagnetic fields generated by mobile phones, MRI or X-rays can lead to increased release of mercury from dental amalgam fillings.

Source:
Ghazali Mortazavi, Hossein Mordarani, Samaneh Jarideh, and SMJ Mortazavi. How Limiting is the Increased Mercury Release Due to Exposure to Electromagnetic Fields in Using Dental Amalgam in Restorative Dentistry? *International Journal of Radiation Research (IJRR)*, in press.

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Autism

Introducing a Hypothesis

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Autism Issue

- There are some evidence indicating that perinatal exposure to mercury is significantly associated with an increased risk of developmental disorders such as autism spectrum disorders (ASD) and attention-deficit hyperactivity disorder (ADHD).
- Furthermore, mercury can decrease the levels of neurotransmitters dopamine, serotonin, norepinephrine, and acetylcholine in the brain and cause neurological problems.

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Autism Issue:

- On the other hand, a strong positive correlation between maternal and cord blood mercury levels is found in some studies.

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Autism Issue:

- Maternal exposure to electromagnetic fields in mothers with dental amalgam fillings may cause elevated levels of mercury and trigger the increase in autism rates.
- Further studies are needed to have a better understanding of the possible role of the increased mercury level after exposure to electromagnetic fields and the rate of autism spectrum disorders in the offspring.

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Autism Issue:

Considering the strong association between exposure to electromagnetic fields and increased mercury release from dental amalgam fillings, it can be hypothesized that maternal exposure to electromagnetic fields in mothers with dental amalgam fillings may cause elevated levels of mercury and possibly trigger the increase in autism rates

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Short Report

Increased Release of Mercury from Dental Amalgam Fillings due to Maternal Exposure to Electromagnetic Fields as a Possible Mechanism for the High Rates of Autism in the Offspring: Introducing a Hypothesis

Mortazavi Gh, Haghani M, Rastegarlan N, Zarei S, Mortazavi S.M.J.^{1,2*}

ABSTRACT

According to the World Health Organization (WHO), factors such as growing electricity demand, ever-advancing technologies and changes in social behaviour have led to steadily increasing exposure to man-made electromagnetic fields. Dental amalgam fillings are among the major sources of exposure to elemental mercury vapor in the general population. Although it was previously believed that low levels are mercury (i.e. release of mercury from dental amalgam) is not hazardous, new scientific data indicate that even very low doses of mercury cause toxicity. There are some evidence indicating that prenatal exposure to mercury is significantly associated with increased risk of developmental disorders such as autism spectrum disorders (ASD) and attention-deficit hyperactivity disorder (ADHD). Furthermore, mercury can decrease the levels of neurotransmitters dopamine, serotonin, norepinephrine, and acetylcholine in the brain and cause neurological problems. On the other hand, a strong positive

Help Spread Autism Awareness

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What can we do?

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Can we move to mercury free dentistry?

Kathmandu - Academician, dental professionals and environmental experts emphasizes the protection of human health and environmental pollution and urge the government to take initiative step to introduce national regulation on mercury-free dentistry, mercury free health care services and an alternative dental curriculum.

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Are There Alternatives to Using Dental Amalgam Fillings?

- Resin composite
- Glass ionomer
- Resin ionomer
- Porcelain
- Gold alloys

Every restorative material has advantages and disadvantages!

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REFERENCES

- [1] S. M. J. Mortazavi, M. Motamedifar, G. Namdari, M. Taheri, A. R. Mortazavi, and N. Shokrpour, "Non-Linear Adaptive Phenomena which Decrease the Risk of Infection after Pre-Exposure to Radiofrequency Radiation," *Dose-Response*, in press.
- [2] S. M. J. Mortazavi, S. Taeb, and N. Dehghan, "Alterations of Visual Reaction Time and Short Term Memory in Military Radar Personnel," *Iranian J Publ Health*, vol. 42, pp. 428-435, 2013.
- [3] S. M. J. Mortazavi, M. S. Rouintan, S. Taeb, N. Dehghan, A. A. Ghaffarpanah, Z. Sadeghi, et al., "Human short-term exposure to electromagnetic fields emitted by mobile phones decreases computer-assisted visual reaction time," *Acta Neurologica Belgica*, vol. 112, pp. 171-175, 2012.
- [4] S. M. J. Mortazavi, M. A. Mosleh-Shirazi, A. R. Tavassoli, M. Taheri, A. R. Mehdizadeh, S. A. S. Namazi, et al., "Increased Radioresistance to Lethal Doses of Gamma Rays in Mice and Rats after Exposure to Microwave Radiation Emitted by a GSM Mobile Phone Simulator," *Dose Response*, vol. 11, pp. 281-292, 2013.
- [5] S. Mortazavi, M. Mosleh-Shirazi, A. Tavassoli, M. Taheri, Z. Bagheri, R. Ghalandari, et al., "A comparative study on the increased radioresistance to lethal doses of gamma rays after exposure to microwave radiation and oral intake of flasseed oil," *Iranian Journal of Radiation Research*, vol. 9, pp. 9-14, 2011.
- [6] S. M. J. Mortazavi, A. Habib, A. H. Ganj-Karimi, R. Summi-Dooost, A. Pour-Abeili, and A. Babaei, "Alterations in TSH and Thyroid Hormones Following Mobile Phone Use," *OMJ*, vol. 24, pp. 274-278, 2009.
- [7] S. M. J. Mortazavi, E. Daice, A. Yazdi, K. Khiabani, A. Kavousi, R. Vazirnejad, et al., "Mercury release from dental amalgam restorations after magnetic resonance imaging and following mobile phone use," *Pakistan Journal of Biological Sciences*, vol. 11, pp. 1142-1146, 2008.

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- [8] S. M. J. Mortazavi, J. Ahmadi, and M. Shariati, "Prevalence of subjective poor health symptoms associated with exposure to electromagnetic fields among University students," *Bioelectromagnetics*, vol. 28, pp. 328-330, 2007.
- [9] S. M. J. Mortazavi, "Safety Issue of Mobile Phone Base Stations " *J Biomed Phys Eng*, vol. 3, pp. 1-2, 2013.
- [10] S. M. J. Mortazavi, "Adaptive responses after exposure to cosmic and natural terrestrial radiation," *Indian Journal of Radiation Research*, pp. 104-112, 2004.
- [11] S. M. J. Mortazavi, A. R. Tavasoli, F. Ranjbari, and P. Moamasi, "Effects of Laptop Computers' Electromagnetic Field on Sperm Quality," *Journal of Reproduction and Infertility*, vol. 11, pp. 251-258, 2011.
- [12] S. M. Mortazavi, S. Vazife-Dooost, M. Yaghoobi, S. Mehdizadeh, and A. Rajaie-Far, "Occupational exposure of dentists to electromagnetic fields produced by magnetostrictive cavitrons alters the serum cortisol level," *J Nat Sci Biol Med*, vol. 3, pp. 60-4, Jan 2012.
- [13] S. M. Mortazavi, E. Daiee, A. Yazdi, K. Khiabani, A. Kavousi, R. Vazirinejad, et al., "Mercury release from dental amalgam restorations after magnetic resonance imaging and following mobile phone use," *Pak J Biol Sci*, vol. 11, pp. 1142-6, Apr 15 2008.
- [14] S. M. J. Mortazavi, M. Neghab, S. M. H. Amosheh, N. Bahaeddini, G. Mortazavi, and P. Neghab, "High Magnetic Flux MRI Accelerates Release of Mercury from Dental Amalgam Fillings," *THEIAOEM*, 2014.
- [15] S. M. J. Mortazavi, M. Neghab, S. M. H. Amosheh, N. Bahaeddini, G. Mortazavi, P. Neghab, et al., "High-field MRI and Mercury release from dental amalgam fillings," *International Journal of Occupational and Environmental Medicine*, vol. 5, pp. 101-105, 2014.
- [16] S. M. J. Mortazavi and G. Mortazavi, "Effects of X-rays and magnetic resonance imaging on mercury release from dental amalgam into artificial saliva," *Oral Radiology*, pp. 1-2, 2014/09/30 2014.
- [17] Mortazavi, G and Mortazavi, SMJ (in press) Amalgam contact hypersensitivity lesion: An unusual presentation-report of a rare case. *Annals of medical and health sciences research*.
- [18] Mortazavi, G, Javidi, S, Mozafari, H, and Mortazavi, SMJ (in press) Is Increased Mercury Release Due to Exposure to Electromagnetic Fields a Limiting Factor for Using Dental Amalgam? *IJRR*.
- [19] Mortazavi, G, Haghani, M, Rastegarian, N, Zarei, S, and Mortazavi, S (2015) Increased Release of Mercury from Dental Amalgam Fillings due to Maternal Exposure to Electromagnetic Fields as a Possible Mechanism for the High Rates of Autism in the Offspring: Introducing a Hypothesis. *Journal of Biomedical Physics and Engineering*.

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Thank you!

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