



Correspondence

Prevalence and risk factors for multiple chemical sensitivity in Australia[☆]

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ABSTRACT

The author found that the prevalence of diagnosed multiple chemical sensitivity (MCS) in Australia was 6.5%. No mention is made about the role of exposure to metals. Exposure to metallic elements has been associated with MCS. Metals are a well-known primary risk factor for idiopathic environmental intolerance. It is important that the medical approach designed to reduce the risk factors for MCS includes preventive strategies of metal exposure.

To the editor:

We congratulate Dr. Anne Steinemann for her admirably performed research on the prevalence of multiple chemical sensitivity (MCS) among Australian adults (Steinemann, 2018). Until 2016, the author of the study found that the prevalence of diagnosed MCS in Australia was 6.5%, affecting 1 million of the 26 million people who live in Australia (Steinemann, 2018).

In one paragraph in the Introduction section of the article, she states that, “Sources commonly implicated in MCS (e.g., pesticides, solvents, new building materials, and fragranced consumer products) are documented sources of air pollutants...” (Steinemann, 2018). However, no mention is made about the role of exposure to metals in MCS.

Chronic low levels exposure to metallic elements has been associated with MCS. As a matter of fact, metals are a well-known primary risk factor for idiopathic environmental intolerance (Guzzi et al., 2016; Pigatto et al., 2013). One study investigated combinations of risk factors that are often seen with high frequency in MCS patients, and that might act in synergy (e.g., metals, solvents, and aldehydes) (Pigatto et al., 2013).

In one third of the previously reported MCS cases, the temporal

association between the exposure to potentially toxic metals and the developed of chemical sensitivity syndrome suggests a causal link (Pigatto et al., 2013). Of note, most of the MCS patients had an associated condition of polysensitization to metal allergens (70%) (Guzzi et al., 2018; Pigatto et al., 2013).

Interestingly, as a study she cites shows, (De Luca et al., 2011) metals have been considered as causing or contributing to development of MCS. We believe that it is extremely important that the medical approach designed to reduce the risk factors for MCS includes the management, or preventive strategies, of metal exposure in humans.

Conflict of interest statement

We have no conflicts of interest connected with this work.

References

- De Luca, C., Raskovic, D., Pacifico, V., Thai, J.C., Korkina, L., 2011. The search for reliable biomarkers of disease in multiple chemical sensitivity and other environmental intolerances. *Int. J. Environ. Res. Public Health* 8, 2770–2797. <https://doi.org/10.3390/ijerph8072770>.
- Guzzi, G., Ronchi, A., Barbaro, M., Spadari, F., Bombeccari, G., Brambilla, L., Ferrucci, S., Pigatto, P., 2016. Multiple chemical sensitivity and toxic metals. *Toxicol. Lett.* 258

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Letter to the Editor

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- (Suppl), s113. <https://doi.org/10.1016/j.toxlet.2016.06.1464>.
- Guzzi, G., Pigatto, P.D., Legori, A., Ferrucci, S., Brambilla, L., 2018. Multiple sensitization to metals in MCS. *Contact Dermatitis* 79 (Suppl.1), 1. <https://doi.org/10.1111/cod.13111>.
- Pigatto, P.D., Minoia, C., Ronchi, A., Brambilla, L., Ferrucci, S.M., Spadari, F., Passoni, M., Somalvico, F., Bombeccari, G.P., et al., 2013. Allergological and toxicological aspects in a multiple chemical sensitivity cohort. *Oxidative Med. Cell. Longev.* 2013:356235. doi:<https://doi.org/10.1155/2013/356235>.
- Steinemann, A., 2018. Prevalence and effects of multiple chemical sensitivities in Australia. *Prev. Med. Rep.* 10, 191–194. <https://doi.org/10.1016/j.pmedr.2018.03.007>.

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