

Mercury overexposure and atrial fibrillation

To the Editor,

We read with great interest the article entitled "An arrhythmic episode after mercury exposure and successful treatment with chelation therapy: A case report." by Karakulak et al. (1) reporting a case of acute mercury (vapor) poisoning followed by 7-day history of malaise, fatigue, proximal weakness in the legs and in the arms, atypical chest pain, and palpitation in a 32-year-old woman in published *Anatol J Cardiol* 2015; 15: 589-90. The syndrome of acute mercury toxicity became manifest within 24 h after metallic mercury (Hg^0) overexposure (1). The source of acute intoxication was the release of elemental (Hg^0) from a broken fluorescent lamp (1). We applaud this interesting work, but we would like to raise one issue regarding its interpretation. There is no doubt that mercury (as elemental mercury and/or mercuric oxide) is released from a broken fluorescent lamp (2). But if the latter does emit sizable amounts of (Hg^0) (3), some other metallic elements may be released from broke bulbs and/or tube (4), potentially causing adverse cardiovascular effects (5). When a fluorescent lamp is broken, arsenic (As) and lead (Pb) are also released into the air (4), and they are considered potentially harmful to the heart (5). During accidental exposures, both arsenic (As) and lead (Pb) may contribute to arrhythmia and tachycardia in humans (5). Therefore, in the case under discussion, the episode of paroxysmal atrial fibrillation may be related to the additive toxic effects induced by the combination of multiple exposures to heavy metals [i.e., elemental metallic mercury (Hg^0), arsenic (As), and lead (Pb)]. The authors (1) are to be commended on their case report of a woman with cardiac arrhythmia after mercury intoxication and their high index of suspicion and careful analysis of the mercury in bioindicators (i.e., whole blood and urine).

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Author's Reply

To the Editor,

First, we would like to thank for this laudatory and questioning comments to our report entitled "An arrhythmic episode after mercury exposure and successful treatment with chelation therapy: A case report." in this issue of *Anatol J Cardiol* 2015; 15: 589-90 (1). It is very important that any accompanying toxic exposure should be considered in case of a specific toxic exposure. In our center, we often admit patients with multiple metal or toxic agent exposures, especially in case of occupational exposure. We have a toxicologic laboratory capable of analyzing dozens of heavy metals and toxic agents such as lead, arsenic, cadmium, mercury, nickel, mandelic acid, phenylglycolic acid, and trichloroacetic acid. In this patient, we performed detailed toxicologic analysis and only found a significant elevation in mercury levels. We thank again the authors for their attention and giving us this opportunity to clarify.

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Reference

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