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Arsenic exposure and cardiovascular disease: an updated systematic review

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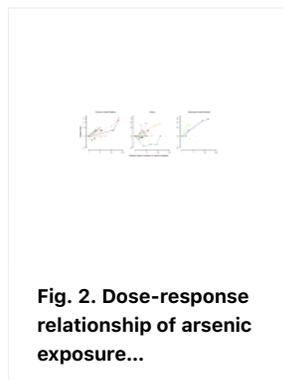
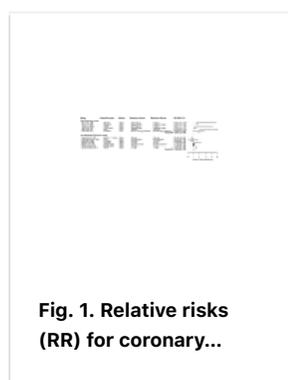
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Abstract

In epidemiologic studies, high-chronic arsenic exposure has been associated with cardiovascular disease, despite methodological limitations. At low-moderate arsenic levels, the evidence was inconclusive. Here, we update a previous systematic review (*Am J Epidemiol* 2005;162:1037-49) examining the association between arsenic exposure and cardiovascular disease. Eighteen studies published since 2005 were combined with 13 studies from the previous review. We calculated pooled relative risks by comparing the highest versus the lowest exposure category across studies. For high exposure (arsenic in drinking water > 50 µg/L), the pooled relative risks (95 % confidence interval) for cardiovascular disease, coronary heart disease, stroke, and peripheral arterial disease were 1.32 (95 % CI:1.05-1.67), 1.89 (95 % CI:1.33-2.69), 1.08 (95 % CI:0.98-1.19), and 2.17 (95 % CI:1.47-3.20), respectively. At low-moderate arsenic levels, the evidence was inconclusive. Our review strengthens the evidence for a causal association between high-chronic arsenic exposure and clinical cardiovascular endpoints. Additional high quality studies are needed at low-moderate arsenic levels.

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