عنوان فارسی مقاله:
پرسی‌سیستم‌اتیک وجود آرسنیک در آب آشامیدنی و سرطان ریه

عنوان انگلیسی مقاله:
Arsenic in drinking water and lung cancer: A systematic review

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Exposure to inorganic arsenic via drinking water is a growing public health concern. We conducted a systematic review of the literature examining the association between arsenic in drinking water and the risk of lung cancer in humans. Towards this aim, we searched electronic databases for articles published through April 2006. Nine ecological studies, two case-control studies, and six cohort studies were identified. The majority of the studies were conducted in areas of high arsenic exposure (100 μg/L) such as southwestern Taiwan, the Niigata Prefecture, Japan, and Northern Chile. Most of the studies reported markedly higher risks of lung cancer mortality or incidence in high arsenic areas compared to the general population or a low arsenic exposed reference group. The quality assessment showed that, among the studies identified, only four assessed arsenic exposure at the individual level. Further, only one of the ecological studies presented results adjusted for potential confounders other than age; of the cohort and case-control studies, only one-half adjusted for cigarette smoking status in the analysis. Despite these methodologic limitations, the consistent observation of strong, statistically significant associations from different study designs carried out in different regions provide support for a causal association between ingesting drinking water with high concentrations of arsenic and lung cancer. The lung cancer risk at lower exposure concentrations remains uncertain.

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