

## عنوان مقاله:

Effects of occupational exposure to lead on left ventricular echocardiographic variables

## محل انتشار:

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## نویسندگان:

Ladan Taheri - *Cardiologist, Isfahan Cardiovascular Research Center, Isfahan Cardiovascular Research Institute, Isfahan University of Medical Sciences, Isfahan, Iran*

Masoumeh Sadeghi - *Associate Professor, Cardiac Rehabilitation Research Center, Isfahan Cardiovascular Research Institute, Isfahan University of Medical Sciences, Isfahan, Iran*

Hamid Sanei - *Associate Professor, Department of Cardiology, School of Medicine, Isfahan University of Medical Sciences, Isfahan, Iran*

Katayoun Rabiei - *General Practitioner, Isfahan Cardiovascular Research Center, Isfahan Cardiovascular Research Institute, Isfahan University of Medical Sciences, Isfahan, Iran*

Somayeh Arabzadeh - *Cardiologist, Isfahan Cardiovascular Research Center, Isfahan Cardiovascular Research Institute, Isfahan University of Medical Sciences, Isfahan, Iran*

Nizal Sarrafzadegan - *Professor, Isfahan Cardiovascular Research Center, Isfahan Cardiovascular Research Institute, Isfahan University of Medical Sciences, Isfahan, Iran*

## خلاصه مقاله:

**BACKGROUND:** Lead contamination can affect many body organs including the heart. This study assessed a number of echocardiographic indices to clarify the effects of lead on cardiac function among battery factory workers who are in constant exposure to lead. **METHODS:** In a cross-sectional study, ۱۴۲ male battery factory workers who had been exposed to lead for at least ۱ year were evaluated. The subjects aged ۲۵-۵۵ years old and were excluded if they had hypertension, diabetes, or cardiovascular diseases. Demographic characteristics, professional profile, lead exposure, history of respiratory diseases, drugs intake, and lifestyle information of the participants were collected. Height, weight and blood pressure measurements were then performed. Blood tests were also ordered to determine blood lead levels. The subjects finally underwent M-mode and Doppler echocardiography. Linear regression analysis was used to establish the effects of lead on the target indices. All statistical analyses were conducted in SPSS۱۸. **RESULTS:** The mean age and mean duration of lead exposure of the subjects were  $۴۱.۷۸ \pm ۱۳.۵۸$  and  $۲۳.۵۴ \pm ۱۴.۴۴$  years, respectively. The mean blood lead level was  $۷.۵۹ \pm ۲.۷۵$   $\mu\text{g/dl}$ . Left ventricular hypertrophy was detected in ۱۲% of the participants. Blood lead levels were not significantly related with echocardiographic indices in the crude model or after adjustments for age alone or for age and other risk factors. **CONCLUSION:** Blood lead levels of our participants were below standard values. In addition, no significant relation was found between left ventricular function indices and blood lead levels. The absence of such relations could have been caused by the exclusion of individuals with hypertension or cardiovascular diseases. Structural modifications in battery factories following legislations in Iran

might have been responsible for low blood lead levels among the subjects. Keywords: Occupational Exposure, .Lead, Left Ventricular Echocardiography

**کلمات کلیدی:**

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