CARDIOVASCULAR MANIFESTATIONS IN GLASS INDUSTRY

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ABSTRACT

Background: It was established that morbidity with temporary loss of working capacity due to diseases of the circulatory organs showed a tendency towards increase among workers of glass industry. This study was carried out at one of glass manufacturing companies in Egypt. Aim of work: investigating the association between cardiovascular
manifestations and possible changes in blood electrolyte e.g Na+, K+, Cl

in workers occupationally exposed to hot environment in glass industry. Subjects
and methods. The cardiovascular system was evaluated in 48 glass workers and in
matched 50 control subjects, by personal interview, clinical examination, ECG, electrolytes
measurement (Na, K, Cl), and liver and kidney function tests. Results: Significant
lower diastolic blood pressure was seen in the exposed workers. Concerning
ECG findings, 7 cases showed acute T wave and another 7 ventricular hypertrophy
and 3 cases suffered from ischaemic heart disease. K level was significantly higher in the cases
having hyperacute T waves in their resting ECG. Recommendations: Heat
exposure provides a risk for the development of cardiovascular diseases. Resting
ECG should be monitored periodically for all heat exposed workers. Electrolyte
measurement is of great help to detect un-acclimatized workers. Fluid intake is mandatory
to compensate for excessive fluid loss and to prevent electrolyte imbalance.
Key words: Glass industry, hot environment, diastolic blood pressure, hyperkalemia, hyperacute T wave.

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