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## RISK ASSESSMENT OF CARDIOVASCULAR DISTURBANCES IN MINERS EXPOSED TO VIBRATION

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**Objectives:** We intended to clarify the effect of professional exposure to vibration on cardiovascular system of miners.

**Methods:** 374 miners, working in an ore mining area, were investigated to evaluate the prevalence of ischemic heart disease, the high blood pressure and parodontitis. They were assigned to three groups: 174 subjects exposed to vibration, with signs of Raynaud's phenomenon (group A), 100 with similar exposure, without Raynaud's phenomenon (group B), and the other 100, who were not exposed, representing the control group (C). The three groups were similar in respect of age, years of working, smoking habits, and hereditary risk

factors for ischemic heart disease. Raynaud's phenomenon was evaluated on the basis of history, physical examination, skin thermometry and cold test. Examinations such as electrocardiograph tracing, blood pressure, gum thermometry and cardiovascular functional tests were performed.

**Results:** The relationship expressed as prevalence was examined by the  $\chi^2$  test and the differences between means by the Student's t-test. There was a statistic significance between the groups A, B and C, respectively, concerning the HTA (Health technology assessment):  $p(A-C) = 0.001$ ;  $p(B-C) = 0.00069$ ; EKG modifications:  $p(A-C) = 0.00021$ ;  $p(B-C) = 0.009$ ; cardiovascular functional test:  $p(A-C) = 1.7 \times 10^{-5}$ ;  $p(B-C) = 0.00088$ .

**Conclusions:** The results of this study suggest that there is a relation between exposure to vibration and cardiovascular disturbances.