P84. ASSESSMENT OF BLOOD-ARSENIC LEVELS OF METALLURGY WORKERS IN TURKEY

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Arsenic exposure in humans has been associated with development of adverse health effects such as neurologic and cardiovascular effects, diabetes mellitus, skin lesions, skin, lung, kidney and liver cancers. Occupatational exposure to arsenic usually occurs with inhalation of arsenic-containing particles in mining industry. A simple and sensitive method was developed and validated to determine the arsenic levels in the biological samples by Graphite Furnace Atomic Absorption Spectrometry (GFAAS) equipped with Zeeman background correction system. Blood, urine and hair samples are known to be the best biomarkers to assess arsenic exposure in humans. Samples were collected from 95 metal workers who admitted to Ankara Occupational Diseases Hospital in Turkey. Prior to analysis; the samples were pre-treated with the acid digestion procedure. The method showed linearity in the range of 0-100 µg/L with a detection and quantification limit equal to 0.37 µg/L and 1.1 µg/L respectively. The calibration curve was characterized by a high correlation coefficient (r^2=0.9983). Validation of the method was performed in terms of repeatability and accuracy with the use of reference materials. The evaluated arsenic levels of blood samples in metallurgy workers ranged between 3.83 and 52.44 µg/L in. Mean arsenic levels in blood of silver metal workers are found as 21.25±12.47 µg/L.