TURJOEM
The Turkish Journal of Occupational / Environmental Medicine and Safety

Vol:2, No:1 (1), 2017 Web: http://www.turjoem.com ISSN : 2149-4711

SHC 8. PRELIMINARY ASSESSMENT OF METAL LEVELS IN THALASSEMIA PATIENTS

Bayram YÜKSEL, Dilek KAYA-AKYÜZLÜ, Zeliha KAYAALTI

Ankara Police Forensic Laboratory, Turkish National Police, Ankara, Turkey
Ankara University, Institute of Forensic Sciences, Dikimevi, Ankara, Turkey

Studies due to biological screening in toxicological research are important for the asssessment of human health risk considering environmental pollution. Toxic metals are one of the serious groups of environmental contaminants. Beta-thalassemia is a form of thalassemia that is caused by a deficiency of beta globin related to any of more than 200 point mutations in functionally important regions of the beta globin gene on chromosome 11. This deficiency brings about an accumulation of unpaired α-globin chains and an inequality between α and β globin chains, that develops an extensive range of thalassaemia phenotypes including severe anemia and clinically asymptomatic individuals. Iron is an essential element for many biological and cellular processes in a trace amount, which is a part of numerous hemoproteins and non-heme iron proteins. Differences in iron metabolism can alter lead toxicokinetics. Thus, genes related to iron metabolism could modify lead toxicity. From this point of view, the present study intended to measure toxic and essentials metal levels in 100 genetically unrelated thalassemia patients and 100 healthy unrelated controls. Hence, it was also aimed to investigate whether or not iron-deficiency in beta-thalassemia patients was associated with blood metal levels. Measurement was performed by Atomic Absportion Spectrometry. Finally, preliminary assessments of metal levels in thalassemia patients were conducted.

This study was supported by the Scientific and Technical Research Council of Turkey (TUBITAK), Project number 114S312.

* bayramyuksel83@gmail.com
Corresponding Author: zkayaalti@gmail.com