The Turkish Journal of Occupational / Environmental Medicine and Safety

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

P140. IN THALASSEMIA PATIENTS, TOXIC EFFECTS CAUSED BY BLOOD TRANSFUSIONS

Fatih ÖZTÜRK, Zeliha KAYAALTI

Ankara University, Institute of Forensic Sciences, Ankara, Türkiye

Thalassemia is hereditary blood disease passed from parents to children through the genes. Unbalanced globin chain synthesis is the major cause of low level hemoglobin production leading to anemia. Main cause of the beta thalassemias is defective β-globin synthesis, which leads to imbalanced globin chain production and an excess of α-chains.

The accumulation of iron in the tissues of thalassemi patients there are two main reasons. The first; Performed blood transfusions on a regular basis due to ineffective erythropoiesis, is triggered as a consequence of intestinal iron absorption. The treatment administered to patients with thalassemia every 2-4 weeks 1-3 unit red cell transfusion is done on a regular basis. Another source of iron is free iron ions in the blood Which are transfer from donor to the patient. Approximately 15-20 mg per day accumulates iron in the tissues as a result of transfusion. The second; the iron passes free statu after destruction of hemoglobin.

The main reason of iron toxicity redox reactions is catalyzed. Normal cellular reactions that occur result of reactive oxygen intermediates, superoxide (O2) and hydrogen peroxide (H2O2) is oxidative stress in the body, if not removed from the body. Oxygen intermediates can be converted into oxygen radicals which arise cellular injury with iron-dependent Fenton reaction. "In this study, thalassemia patients referred to increased toxicity of iron in the blood as a result of blood transfusions.

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

*fozturkfatih@gmail.com

Corresponding Author: kayaalti@ankara.edu.tr