

P75. TRACE ELEMENT STATUS IN LYCOPENE AND/OR OCHRATOXIN A TREATED RATS

S. Sezin PALABIYIK^{1,2}, Murat KIZILGUN³, Pinar ERKEKOGLU¹, Gönül ŞAHİN⁴, Belma KOCER-GUMUSEL^{1*}

¹Hacettepe University, Faculty of Pharmacy, Department of Toxicology, 06100 Ankara, TÜRKİYE

²Ataturk University, Faculty of Pharmacy, Department of Toxicology, Erzurum, TÜRKİYE

³Department of Biochemistry, Diskapi Children's Health and Diseases, Hematology, Oncology Training and Research Hospital, 06100 Ankara, TÜRKİYE

⁴Eastern Mediterranean University, Faculty of Pharmacy, Department of Toxicology, 10 Mersin, TÜRKİYE

*belmagumusel@yahoo.com; bgiray@hacettepe.edu.tr

Ochratoxin A (OTA), one of the most prevalent mycotoxins in the world, has nephrotoxic and hepatotoxic properties. Lycopene is an important carotenoid and has a high singlet-oxygen and free-radical scavenging capacity. This study was designed to investigate the effects of OTA and/or lycopene on the hepatic, renal and testicular trace element status (selenium, zinc and copper) of male Sprague-Dawley rats. Rats (<200 g, n=6) were treated with OTA (0.5 mg/kg/day) and/or lycopene (5 mg/kg/day) by gavage for 7 or 14 days. Hepatic, renal and testicular selenium (20% in liver, 17% in kidney and 40% in testis) and zinc levels (24% in liver, 23% in kidney and 26% in testis) decreased significantly with OTA exposure. Besides, hepatic copper levels decreased markedly in OTA-treated rats. Lycopene supplementation did not affect the trace element levels in any of the organs. Lycopene with OTA treatment provided significant increases in hepatic, renal and testicular selenium and zinc levels. The results of this study showed that at least one of the mechanisms underlying the toxic effects of OTA was its effect on trace element status in different organs, the importance of which needs to be further evaluated. These results also showed that lycopene ameliorated the distribution pattern of essential trace elements in various tissues after OTA exposure.