was to determine whether DMT1 IVS4 + 44C/A single nucleotide polymorphism (SNP) has an effect on Pb, Fe and Erythrocyte protoporphyrin (EP) levels in blood and Aminolevulinic Acid (ALA) and total porfirin levels in urine of Turkish metallurgy workers. For this purpose blood samples were obtained from 82 male and studied by standard PCR-RFLP technique. Pb and Fe were measured Atomic Absorption Spectrometry. EP was measured with molecular fluorimeter, and ALA and Total Porphyrin were measured with spectrofotometer. Genotype frequencies of IVS4 + 44 C/A polymorphism were determined as; 42.68% homozygote typical, 45.12% heterozygote and 12.20% homozygote atypical. Consequently, Pb and Fe levels were measured as; 372.37 ± 145, 20 ppb; 463.91 ± 83.45 ppm. When Pb levels were evaluated with groups, Pb levels were determined as 317.02 ± 122.39 ppb, 399.22 ± 121.85 ppb and 466.79 ± 221.34 ppb in homozygote typical (CC), heterozygote (CA) and homozygote atypical (AA) genotypes, respectively. Statistically significant association ($p < 0.005$) was found between the IVS4 + 44 C/A and Pb, but statistically no association were found between the IVS4 + 44 C/A polymorphism and Fe, EP, ALA and Total Porfirin levels ($p > 0.05$).

Keywords: Divalent Metal Transporter 1, single nucleotide polymorphisms (SNP), Turkish Metallurgy Workers

TUE-361
Association of adiponectin with acute myocardial infarction

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Backgrounds: Adiponectin is an adipose tissue-derived mediator with significant anti-atherogenic properties. A few studies were done in acute phase of myocardial infarction especially in non obese patients. We design a study to investigate the association between adiponectin concentration and acute phase of myocardial infarction in non obese patients.
Methods: This case-control study was done in Paymaneah Hospital (Jahrom, Iran) from Feb 2007 to May 2008. Plasma adiponectin levels were measured in 43 patients with acute myocardial infarction (mean age: 62.7 +/− 13.3 years, male: 67.4%) at the first 24 h of admission and 43 normal controls (mean age: 62.1 +/− 12.3 years, male: 55.8%) matched for age, sex and other coronary artery disease risk factors.
Results: Adiponectin levels in patients with acute myocardial infarction (3.36 μg/ml) were significantly lower than that of the control group (5.03 μg/ml) ($p < 0.0001$). Lower adiponectin were independently associated with higher risk of acute myocardial infarction (odds ratio= 8.97; 95% CIs: 2.3–34.5; $p = 0.001$). Adiponectin levels negatively correlated with triglyceride (r: -0.46, $p = 0.002$) and total cholesterol ($r = -0.32$, $p = 0.03$) in the case group and with body mass index in control subjects.
Conclusion: The present study showed that adiponectin was associated with acute myocardial infarction in non obese patients but it is not related to sex, age and other coronary artery disease risk factors.

Keywords: Adiponectin, infarction

TUE-363
Atrazine herbicide cause cell damages in *Saccharomyces cerevisiae*, probably due a slowdown of glutathione redox cycle

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Atrazine (ATZ) has been used extensively as an herbicide, mainly due to its relatively low cost and ease of application. Previous studies have shown that many pollutants are redox active being able to enter microorganisms, causing a univalent reduction of dioxygen with reactive oxygen species (ROS) formation. These products can severely attack cell membranes causing lipid peroxidation. Many cells have developed antioxidative defence system, consisting of ROS-scavenging enzymes, e.g. glutathione peroxidase (GPx) or catalases (CTT1, CTA1), and antioxidants, e.g. glutathione (GSH). Catalases and GPx can catalyze H_2O_2 reduction to H_2O and GPx can also scavenge lipid hydroperoxides, converting them in correspondent alcohols. ROS can be produced in cells not only as by-products of normal cellular metabolism but also under stress situations as contact with xenobiotics. So far, the oxidative stress responses to several pollutants as atrazine have been examined in bacteria plants and animals, but few studies have shown the response of antioxidant enzymes in *S. cerevisiae* to herbicides stress. So, the purpose of the present work was to evaluate the antioxidant response by yeast to atrazine exposure. *Saccharomyces cerevisiae* UE-ME_3 a wild-type yeast deposited in the collection of laboratory of Enology, University of Évora, at mid-exponential phase were inoculated in YEPD medium, 2% (w/v) glucose, at 28°C, and shaken 150 rpm for 72 h in presence of 5 or 50 μM ATZ and compared with control (YEPD). Yeasts were harvested by centrifugation at 3000 *g* for 10 min and washed with ultra-pure sterile water. The obtained cells were suspended in 10 mM phosphate buffer pH 7.0, and disrupted by sonication. The post-12 000 *g* supernatants were used for ROS, malondialdheyde (MDA), glutathione (GSH) and glutathione disulfide (GSSG) determination by fluorescence as well as alkaline phosphatase (ALP), CTT1, CTA1, glutathione reductase (GR), GPx and glucose 6-phosphate dehydrogenase (G6PD) activities by molecular absorption spectrometry. The statistical analyses were performed by ANOVA I and Duncan test ($p < 0.01$), using SPSS for Windows, version 22. The results showed a decrease in biomass, GSH/GSSG ratio, GR and GPx activities in the cells grown in presence of 5 or 50 μM atrazine. Additionally, it was also detected an increase in ROS and MDA contents as well as in CTT1, G6PD and ALP activities of cells exposed to 50 μM atrazine. In conclusion, the exposure to 50 μM atrazine, a triazine herbicide, caused oxidative stress and cell damages in wild-type *S. cerevisiae* UE-ME_3, probably due a slowdown of glutathione redox cycle, despite a protection resulting from an increase of cytoplasmic activities catalase and ALP.

Keywords: malondialdheyde, Triazines, yeast