P20-011
Investigation of the genotoxic effect and trace element levels of the nickel-titanium arc-wires used in orthodontic treatment

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Nickel-titanium alloy arch-wires are the most frequently used biomaterials thanks to their biocompatibility in orthodontic treatment. Despite these properties we have some evidence about carcinogenic, mutagenic and cytotoxic effects of the materials is associated with their corrosion properties. In this study, we aimed to investigate the genotoxic effects using Micronucleus (MN) technique in 32 patients (consisting of 16 boys and 16 girls whose ages range from 12 to 17) undergoing the Ni-Ti arc-wires treatment. Also, some bioelement (Fe, Cu and Zn) levels in saliva were determined for certain sampling times. The sampling time for patients is 0 (as control) 7th, 15th, 30th, 45th, 60th and 90th days. The mean MN frequency per 1000 cells has increased significantly in days 7, 15, 30 and 45 compared to the control group. However, there was not a significant difference between the 60th and the control group. In addition, the mean MN frequency in the 90th day was found to decrease significantly compared to the control group. Cu values in the saliva samples showed a statistically significant increase in all experimental groups compared to the control group, while there was a significant decrease in Fe and Zn values compared to the control group. Consequently, it has been determined that the genotoxic effects related to Ni-Ti alloy wire were at identifiable levels; however, these effects did not pose a problem in terms of the long-term biocompatibility of the materials.

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P20-012
Behavioral toxicological responses of Zebrafish *Danio rerio* (F. Hamilton, 1822) after exposed with different concentrations of metal mixtures

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Aquatic organisms are often affected by trace metals due to anthropogenic activities. Environmental stress may change fish behavior. Therefore, behavioral changes and toxicological effects are useful tools for environmental risk assessment and analysis of toxicological impact. In this study, it was aimed to investigate the behavioral toxicological responses of zebra fish exposed with mixtures of Aluminum, Chromium, Cobalt, Cadmium and Arsenic metals in drinking water and irrigation water exposure limits. Chronic exposure for 20 days were done with two concentration series; within the drinking water limits of metals arsenic, cadmium, chromium, cobalt and aluminum at 10 mg/L, 5 mg/L, 50 mg/L, 10 mg/L, 300 mg/L respectively and within the allowed irrigation water limits at 100 mg/L, 10 mg/L, 100 mg/L, 50 mg/L and 5000 mg/L respectively.

Behavioral changes were detected by using video-based movement analysis system. The following behaviors were measured: total distance, average and maximum speed. The comparison of control and exposure groups showed that swimming speeds were lower in exposure groups although traveled total distances were higher.

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P20-013
Influence of cystine-glutamate antiporter levels in the stress-induced reinstatement of ethanol

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The understanding of mechanisms responsible for relapse, including stress-induced reinstatement to drug seeking is important to guide treatment strategies for addiction. The role of glutamatergic system in relapse to drugs of abuse has been reported, but little is known about its role in stress-induced reinstatement to ethanol-conditioned place preference (CPP). Thus, this study evaluated the relation between the stress-induced the reinstatement of ethanol-CPP and xCT levels in brain areas such as amygdala and nucleus accumbens in mice. Briefly, male Swiss mice were first submitted to CPP protocol (4 pairings to ethanol and 4 to vehicle) and animals that acquired preference for ethanol proceed to extinction phase (8 days). After the extinction test, mice were submitted to restraint stress for 30 min. Thereupon, the CPP reinstatement was tested immediately for 20 min. At the end of the experiments, mice were sacrificed and the brains were removed. Brain areas were dissected out and xCT levels were measured by western blot ($n = 8$/group). Results showed that the xCT levels were significantly lower in the nucleus accumbens of mice sensitive to restraint stress reinstated the ethanol-CPP ($p < 0.05$, Student-t test). In addition, no alteration was revealed in the amygdala. These results suggest that the xCT in the nucleus accumbens plays an important role in the stress-induced reinstatement to ethanol-CPP in mice and could be a possible target to drugs that reduce ethanol relapse.

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P20-014
Improved cryopreservation of primary hepatocytes for a No-SpinTM thawing and plating process

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The use of hepatocytes cryopreservation usually needs a standard process for removal of cryoprotectant from thawed cell suspension via a post-thaw spin washing and cell counting step prior to the cell plating. This step for removing the cryoprotectant is required for primary hepatocytes and differentiated HepaRG® hepatocytes.