

## **P15. EVALUATION OF Ni LEVELS IN SALIVA AND URINE SAMPLES FROM ORTHODONTIC PATIENTS**

Onur ERDEM, Serdar ÇETINKAYA, Mehmet KAPLAN, Eyüp ÇIRAK, Sıla Mermut GÖKÇE,  
Cemal AKAY

Gulhane Military Medical Academy, Department of Pharmaceutical Toxicology, Ankara, TURKEY  
Gulhane Military Medical Academy, Department of Orthodontics, Ankara, TURKEY  
Medipol University, Department of Orthodontics, Mega Hospitals Complex, Istanbul, TURKEY

Fixed nickel-titanium alloy (Ni-Ti) materials are among the frequently used products in orthodontic treatment. But some metals such as Ni and cobalt (Co) that are components of orthodontic alloys are well known to be allergenic, cytotoxic, and mutagenic. Thus, orthodontic patients are exposed to a noticeable amount of these metals during their treatment depending on construction of materials. From this perspective the objective of the present study was to evaluate in vivo corrosive future of these materials. For this purpose, Ni levels were investigated in saliva and urine samples from the 32 patients (16 boys and 16 girls aged 12-17) who undergoing orthodontic Ni-Ti alloy wire treatment. We applied a sampling time as follows. For the experimental group, samples were collected at 7th, 15th and 30th days after the start of treatment with fixed orthodontic appliances. For the control group, the samples were collected similarly at 0 day before treatment. We found that the levels of saliva Ni were statistically significantly constantly higher than beginning of therapy during orthodontic treatment. Also similar results were determined for urine samples. In general, our results suggest that a significant level of corrosion occurs from Ni-Ti alloy wires and this point must be taken into account during orthodontic therapy. In the future, long-term follow-ups and larger samples of patients are needed to evaluate these results. At the same time this approach will be useful for evaluation of biocompatibility of these materials.

\* oerdem@gata.edu.tr