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P-10 _ ASSESSMENT OF CADMIUM LEVELS IN SERUM, TOENAILS AND DIET: A CROSS SECTIONAL STUDY IN MODENA, NORTHERN ITALY

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Cadmium (Cd) is a heavy metal that poses serious environmental health hazards to humans. Cigarette smoking and some occupations are major sources of exposure, while for non-smokers and subjects unexposed in the workplace, ingestion through food is the most important source, mainly due to vegetables and cereals, but also to fish, offal, wild mushrooms and chocolate. Blood Cd concentration represents both short and long-term exposures, while toenails Cd reflects medium-term exposure. The aim of the study was to assess Cd exposure and its determinants in fifty adults randomly drawn from the municipal population of Modena, by determining Cd levels in plasma and toenails, as well as its dietary intake using a semi-quantitative food frequency questionnaire. Median (25th-75th) values were 40.85 (30.05-

53.50) ng/l, 5.66 (0.50-11.39) ng/g and 13.36 (10.45-16.63) µg/die in serum, toenail and diet, respectively. In stratified analyses for gender, age and smoking habits, males shown higher serum Cd content than females, as did current smokers versus never-smokers, while age shown an inverse correlation. Pearson's correlations were 0.028 (95%CI -0.252, 0.304; P=0.845) between serum and dietary Cd, 0.001 (-0.277, 0.280; P=0.993) between toenail and dietary Cd, and -0.075 (-0.346, 0.208; P=0.606) between serum and toenail Cd, with little gender-related differences. When we excluded current smokers from analysis, only the correlation between serum and dietary Cd changed, slightly increasing (r=0.068, 95% CI -0.245,0.367; P=0.675).