P-105 Mercury and Blood Pressure Levels in Inhabitants from a Highly Industrialized Region in Northern Portugal

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Estarreja is a highly industrialized municipality in NW Portugal, well known for its historical mercury contamination. Some reports have linked hypertension and mercury exposure. In this work, we collected house dust samples and hair from the residents of this area, together with systolic (SBP) and diastolic (DBP) blood pressure. Hair mercury levels varied between 624 and 4535 ng/g, and mercury in dust varied from 93 to 9100 ng/g. No statistically significant association between dust and hair could be established (Spearman Rank Order Correlation, p=0.199). SBP varied between 175 and 116 whereas DBP ranged from 70 to 121 mm Hg, meaning that 28% of the participants were hypertensive. However, no statistically significant differences in mercury concentration between the hypertensive and normal group were found (One-tailed P-value = 0.444). Furthermore, no significant associations between SBP (p=0.826) or DBP (p=0.695) and hair mercury levels were obtained. However, 44% of individuals exhibited hair mercury levels higher than the acceptable dose set by the WHO (2000 ng/g), 72% exhibited levels higher than the acceptable dose set by the USEPA (1000 ng/g), and all participants exhibited mercury concentrations above the safe limit for Europe (580 ng/g).