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# POLYCYCLIC AROMATIC HYDROCARBONS IN THE URINE OF THE ENVIRONMENTALLY EXPOSED PEOPLE

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Polycyclic Aromatic Hydrocarbons (PAH) are widespread pollutants. PAH sources are natural and anthropogenic [1]. They are found in very small quantities in the atmosphere ( $\text{ng/m}^3$  of air), drinking water ( $\text{ng/L}$ ), soil ( $\mu\text{g/kg}$ ) and in food [2]. So, people are exposed to environmental PAHs. Some part of PAHs without any chemical changing are excreted with urine. A reversed-phase HPLC method with fluorescence detection was used for determination of benzo(a)pyrene (BaP), anthracene (ANT) and phenantrene (PHE) in humans' urine. Sampling was performed in November of 1996 in Širvintos, a small city of Lithuania, where concentrations of PHE, ANT, BaP in air aerosols are not very high [3]. Samples were collected in the morning from 12 smokers and 12 non-smokers. The minimal detected concentrations in urine are 0.4, 0.1 and 12.0  $\text{ng/L}$ , the maximum - 11, 160, and 150  $\text{ng/L}$  for BaP, ANT, FEN respectively. Statistical evaluation of all examined cases shows (Fig.), that BaP, ANT and PHE concentrations in urine among smokers are higher. Method, used for detection BaP, ANT and PHE in urine, is sufficiently sensitive even for the evaluation of human environmental exposure to PAH.

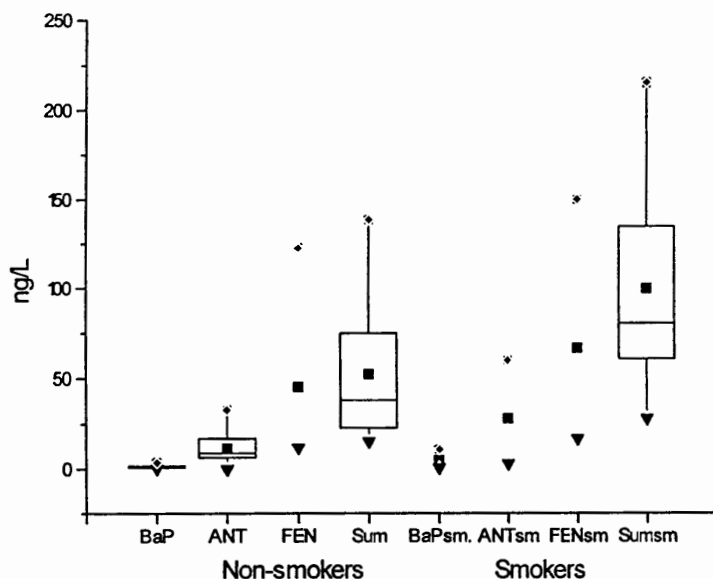


Figure. Statistical Box chart of BaP, ANT and FEN concentrations data in the environmentally exposed people urine.

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