TOTAL MERCURY LEVELS IN HAIR IN LOW FISH CONSUMING PEOPLE

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The concentration of total mercury in hair (THg-H) is often used to estimate of methyl mercury (MeHg) exposure, assuming that >90% of Hg in hair is in form of MeHg. It has been proposed that THg-H reflects low MeHg exposure in population with no or fish consuming. The aim of the present study was to asses the concentration of THg -H in the people with low fish consumption.

The subjects were 22 volunteers, people living in the centre of Poland in Lodz city, within age 25 – 50 years, with low fish consumption (0-8 meals per month, without fishfood).

Total mercury concentration was determined with cold vapour atomic absorption spectrometry (CV AAS) based on tin (II) chloride mercury reduction after microwave digestion of hair samples with nitric acid and potassium dichromate. The hair samples were cut from the back of the head, close to the scalp, least about 4-5 cm long. The reliability of mercury determinations in hair samples was verified by measuring Hg concentration in reference material (BCR CRM 397; IAEA-086).

The results of the study indicated that the mean concentrations of total mercury in the hair in the investigated people from Lodz amounted 0.214 ± 0.177 μg/g (within range 0.032 ÷ 0.692 μg/g hair). THg-H increased with increasing number of consumption fish meal (r=0.336, p<0.005). The mercury levels determined in this study are comparable with the mercury hair concentrations quoted by the others authors for the populations with small fish consumption.