

# CONCENTRATIONS OF POLYCHLORINATED BIPHENYLS AND CHLORINATED PESTICIDES IN HUMAN BREAST MILK - A CASE STUDY

V. Gajdůšková<sup>1</sup>, R. Ulrich<sup>1</sup>, J. Ledvinová<sup>2</sup>, M. Anton<sup>2</sup>, J. Kopečný<sup>2</sup>

<sup>1</sup>Veterinary Research Institute, Brno

<sup>2</sup>Clinic of Gynaecology and Obstetrics, Medical Faculty Hospital, Brno-Bohunice, Czech Republic

## SUMMARY

Concentrations of chlorinated pesticides (p,p'-DDE, lindane), hexachlorobenzene (HCB), sum of polychlorinated biphenyls (PCBs), and PCB congeners in breast milk during lactation and the distribution of the chlorinated compounds in fat tissue, blood serum and breast milk were pursued in five primi- or secundipara from the hinterland of a clinic of gynaecology and obstetrics in Brno in 1993. Capillary gas chromatography with ECD detection was used for the determination of the residues. The concentrations of HCB, lindane, p,p'-DDE, and sum of PCBs ranged from 42.5 to 238.4, from < 1.0 to 7.4, from 231.4 to 557.6, and from 661.3 to 2 888.9  $\mu\text{g}\cdot\text{kg}^{-1}$  of milk fat, respectively. Seventeen PCB congeners were screened, of which 11 were identified in most of the milk samples (IUPAC numbers 28, 101, 118, 126, 128, 138, 153, 156, 170, 180, 194). Congeners 138, 153, 170, and 180 were the most abundant and their concentrations in  $\mu\text{g}\cdot\text{kg}^{-1}$  of milk fat ranged from 122.9 to 501.0 for 153, from 103.4 to 372.1 for 138, from 66.1 to 407.9 for 180, from 26.8 to 183.1 for 170, and from 10.0 to 41.7 for 118.

*Key words:* chlorinated pesticides, HCB, PCB congeners, human milk, capillary gas chromatography

Address for correspondence: V. Gajdůšková, Veterinary Research Institute, Hudcova 70, 621 32 Brno, Czech Republic