Cent. eur. J. publ. Hlth 2, 1994, No. 2, p. 73-76.

CORD BLOOD LEVELS OF POTENTIALLY NEUROTOXIC POLLUTANTS (POLYCHLORINATED BIPHENYLS, LEAD AND CADMIUM) IN THE AREAS OF PRAGUE (CZECH REPUBLIC) AND KATOWICE (POLAND). COMPARISON WITH REFERENCE VALUES IN THE NETHERLANDS

The Czech/Polish/Dutch/German Research Team

Members participating in the team are:
V. Janoušek, J. Krijt (Department of Pathological Physiology), **M. Malbohan** (Department of Immunochemistry),
D. Cibula (Department of Obstetrics and Gynecology, First Medical Faculty, Charles University, Prague, Czech Republic)
W. Lukas (Silesian Medical Academy, Zabrze), **J. E. Zejda** (Institute of Occupational Medicine & Environmental Health, Sosnowiec, Poland)
W. Lammers (advisor), **M. Huisman, E. R. Boersma** (Department of Obstetrics and Gynaecology, University Hospital, Groningen);
C. G. van der Paauw (TNO Nutrition and Food Research, Zeist), **E. F. Vogelaar** (European Laboratory of Nutrients, Utrecht, The Netherlands)
G. Winneke (Medizinisches Institut für Umwelthygiene), **E. Schmidt** (Klinik für Pädiatrie), **H.-J. Steingrüber** (Institut für Medizinische Psychologie, University of Düsseldorf, Germany)

SUMMARY

In a preliminary study the levels of four non-planar polychlorinated biphenyls congeners (118, 138, 153 and 180), and of the toxic metals lead and cadmium, and their antagonist selenium and zinc were measured in cord blood from apparently healthy neonates from the region of Prague and Upper Silezia (Katowice). These „background" levels were compared with similar values from neonates in the Netherlands.

It was found that the levels of three PCB congeners (138, 153 and 180) were significantly higher in the Prague samples than in the Netherlands; but in the Katowice group they were significantly lower. In Upper Silezia (Katowice) the values of the metals lead and cadmium, and in Prague those of cadmium and selenium were significantly higher than in the Netherlands.

The importance of these findings is discussed. It is argued that neurotoxic effects of perinatal exposure can be expected to be more prominent in Central Europe than in Western European countries. A more thorough study is indicated and will be undertaken by a joint Czech/Polish/Dutch/German research group.

Key words: exposure, polychlorinated biphenyl (PCB), lead, cadmium, selenium, zinc, perinatal, cord blood, Czech Republic, Poland, the Netherlands

Address for correspondence: E. R. Boersma, Dept. of Obstetrics & Gynaecology, University Hospital Groningen, P. O. Box 30.001, 9700 RB Groningen, The Netherlands