

[PA3-8] [10/19/2000 (Thr) 10:00 – 11:00 / [Hall B]]

Effects of bisphenol A on nitric oxide production from peritoneal macrophage in mice

Byun JA, Pyo MY

College of Pharmacy, Sookmyung Women's University

Bisphenol A(BPA) is a monomer used in the manufacture of epoxy resins and polycarbonates used in interior coatings of cans and food packaging materials. BPA has been shown to induce estrogenic activity and considered to be a probable endocrine disruptor recently. The purpose of this study was to investigate effects of BPA on nitric oxide production from peritoneal macrophage in mice. After subacute oral administration of BPA(100, 500, 1000mg/kg/day) to female ICR mice, peritoneal macrophages were obtained and cultured for 4 days with LPS. Also, normal mouse peritoneal macrophages (2x10⁶ cells/ml) were incubated in the presence of various concentration of BPA(1nM,100nM,1uM,10uM,100uM) for 4 days with LPS. Nitric oxide production was dose dependently decreased by treatment BPA in vitro but not affected in vivo.

[PA3-9] [10/19/2000 (Thr) 10:00 – 11:00 / [Hall B]]

Antiestrogenic activity of incinerator residues from school waste semi - incinerator

Park SJ, Ham BW, Oh SM, Chung KH

College of pharmacy, Sungkyunkwan University

It has well known that the most relevant toxic emissions such as polychlorinated dibenzo-p-dioxin (PCDDs), polychlorinated dibenzofurans(PCDFs), dioxin-like polychlorinated biphenyls(PCBs) are produced from incinerators. Induction of cytochrome P4501A catalyzed 7-ethoxyresourfin O-deethylase(EROD) activity in mammalian cell culture (EROD-microbioassay) is thought to be a selective and sensitive parameter used for the quantification of dioxin-like compounds. In Korea, several school have waste incinerator and its hazard become a social issue. The toxic emissions from several school waste incinerators were evaluated by determination of CYP1A catalytic activity and cytotoxicity using cell culture microbioassay. In addition, their antiestrogenic activity were determined by E-screen assay. The incinerator residues and soil samples were collected from the schools located in Kyunggi province in Korea from April to June 1999. The samples were extracted in a Soxhlet apparatus using toluene for 20 hours. The extracts were cleaned and fractionated with basic alumina column. In this method, basic alumina binds neutral, planar aromatic compounds, which can be eluted from the column with solvent mixtures. Two fractions(fraction I :Aliphatic hydrocarbons, nonplanar aromatic compounds-most PCBs, fraction II :Planar aromatic compounds-PAHs, PCDDs and PCDFs, so-called "TCDD-equivalents") were eluted from the column with solvent mixtures. Significantly increased EROD activities and antiestrogenic activities were observed. These results indicated that the potent toxic emissions were produced from school waste semi-incinerators.

[PA3-10] [10/19/2000 (Thr) 10:00 – 11:00 / [Hall B]]

Estrogenic activities of river waters of Korea in human

Kim MY, Kim DH, Oh SM, Chung KH