

method detection limit of bisphenol A for SIM were 0.732 µg/l (EPA method), 0.002 µg/l (isoBOC derivatization) and 0.021 µg/l (TBDMS derivatization). The SIM responses were linear with the correlation coefficient varying 0.9755~0.9981 (isoBOC derivatization), and 0.9908~0.9996 (TBDMS derivatization). When these methods were applied to treated wastewater sample from a polyethylene plant, the concentrations of 11 phenols were below the method detection limit.

[OE-1] [ 10/18/2002 (Fri) 12:20 - 12:30 / Hall A ]

### Application of in situ gelling mucoadhesive delivery system for plasmid DNA as a macromolecule

Park Jeong-Sook<sup>o</sup>, Oh Yu-Kyoung\*, Kim Chong-Kook

College of Pharmacy, Seoul National University; \*College of Medicine, Pochon CHA University

Mucosal administration of drug or therapeutic gene is emerging as a new route of delivery for systemic and local therapeutics. Previously, in situ gelling system has been applied to chemical drug such as acetaminophen, insulin, prostaglandin E1, and clotrimazole. Plasmid DNA has not been delivered in form of in situ gelling vehicles. To improve the intranasal absorption of plasmid DNA, we designed delivery systems composed of provide of in situ gelling and mucoadhesive polymers. Poloxamers (Pol) were used to provide in situ gelling property. Polycarbophil (PC) or polyethylene oxide (PEO) was used as mucoadhesive polymers. The gelation temperatures of the formulations slightly decreased by the mucoadhesive polymers, but not by plasmid DNA varied with the contents and type of mucoadhesive polymers. Of vehicles, Pol/PC 0.2% showed the highest absorption with an area under the curve value 11-fold higher than saline, the conventional vehicle. The nasal retention of plasmid DNA was highly prolonged by mucoadhesive polymers. At 3 h postdose, the nasal tissue levels of plasmid DNA given in Pol/PC and Pol/PEO 0.8% were 10- and 40-fold higher relative to saline. The histopathology of nasal tissues was not altered after repeated dosing over 2 weeks. These results indicate that the nasal absorption of plasmid DNA can be effectively and safely enhanced by using in situ gelling and mucoadhesive polymer based-vehicles.

[OF-1] [ 10/18/2002 (Fri) 17:10 - 17:20 / Hall B ]

### Corticosteroids and Proximal Femur Fracture in Elderly Women : the KEPEC Study

Lee SeungMi<sup>o</sup>, Kim Yooni, Youn KyungEun, Jung KuiOak, Koo Hyewon, Bae JongMyon, Park ByungJoo

Department of Preventive Medicine, Seoul National University College of Medicine

**Background** - Proximal femur fracture is known as one of the major medical problems in terms of mortality, disability and economic costs. To assess the association between the use of corticosteroids and proximal femur fracture, a cohort study was conducted upon Korean elderly women.  
**Methods** - The Korean Elderly Pharmacoepidemiologic Cohort (KEPEC) was constructed from members of the Korea Medical Insurance Corporation over 65 years of age who were living in Busan Metropolitan City in 1993. Study participants (n=6,036) were female respondents to a self-administered question survey. Information on the use of corticosteroids was collected from the claims data of hospitals where the cohort members received medical care between January 1993 and December 1994. The cohort follow-up has since been conducted with information on proximal femur fracture being collected from the Korea Medical Insurance Corporation medical treatment claims database over the six-year period between January 1, 1993 and December 31, 1998. Relative risk and their 95% confidence interval were calculated using Cox's proportional hazard model.  
**Results** - Two hundred and thirty four subjects had received 486 corticosteroids prescriptions and 59 cases of proximal femur fracture were found. After adjusting for age, body mass index, and physical activity, it was found that the use of corticosteroids significantly increased the risk of proximal femur