

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

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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

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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

fracture (adjusted relative risk, 2.88; 95% CI, 1.15–7.24). Those who had taken both oral route and injection of corticosteroids had 4.47-fold higher risk (95% CI, 1.39–14.37) than those who hadn't used corticosteroids.

Discussion – This study suggests that the use of corticosteroids might be a risk factor for proximal femur fracture in Korean elderly women.

[OF-2] [10/18/2002 (Fri) 17:20 – 17:30 / Hall B]

Incidence level of abnormality in creatine phosphokinase by statin

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Background

Creatine phosphokinase (CPK) was a marker in diagnosis of rhabdomyolysis. The CPK abnormality could be induced by intake of HMG CoA reductase inhibitors (statins).

Objectives

The objective of this study was to estimate the incidence rate of CPK abnormality by each statin.

Methods

Information on patients prescribed statins was collected from Seoul National University Hospital (SNUH) and Yonsei Medical Center Severance Hospital (YMC) between June, 1999 and August, 2001. Patients were categorized into three groups by serum CPK level: normal (SNUH: 55–170U/L, YMC: 44–245U/L(male) 32–135U/L(female)), slightly increased (Upper normal limit[UNL]–500U/L), highly increased (≥ 500 U/L). The cases with CPK abnormality before statin prescription were excluded. The cases with MI and stroke at the time of CPK measurement were also excluded. The incidence level was estimated as incidence density and 95% confidence interval (CI).

Results

Five statins including atorvastatin, cerivastatin, lovastatin, pravastatin, and simvastatin were used in SNUH. Four statins except cerivastatin were used in YMC. The number of patients prescribed statins was 13,547. Among them, 1,052 patients were received CPK exam. The number of cases with abnormality in CPK after intake of statins was 79. Patients with slightly increased CPK level (UNL–500U/L) were 59 cases and patients with highly increased CPK level (≥ 500 U/L) were 20 cases. There was no trend of incidence level in CPK abnormality by age. Incidence density was not different between male and female. Incidence density of slightly increased CPK was 5.8 per 1,000 person-months (95% CI: 4.3–7.3): atorvastatin 11.6 (0–34.3), cerivastatin 43.5 (0–128.3), lovastatin 4.7 (2.8–6.6), pravastatin 1.6 (0.2–3.0), simvastatin 11.8 (7.8–15.8). Incidence density of highly increased CPK was 1.9 per 1,000 person-months (95% CI: 1.1–2.7): lovastatin 1.6 (0.5–2.7), pravastatin 0.3 (0–88.8), simvastatin 5.0 (2.4–7.6).

Discussion

Cerivastatin showed higher incidence level in slightly increased CPK. Simvastatin showed higher incidence level in highly increased CPK. But, there was no statistical significance in the level of CPK abnormality among statins due to small sample size.