

not in ER-negative MDA-MB-231 cells. The cell proliferation by GBE was blocked by tamoxifen. Also, GBE and its major components induced pS2 and PR(progesterone receptor) transcription in MCF-7 cell. Therefore these results indicated the GBE and its major components have the weak estrogenic activities, through the estrogen response pathway by an interaction with the ER. In conclusion, we provided the evidence for potential estrogenic activities of GBE, which could be useful as new HRP. However, further studies were required to assess the physiological significance of GBE in animal and humans.

[PA3-20] [ 04/17/2003 (Thr) 14:00 - 17:00 / Hall P ]

### Current Exposure Status to Cadmium through Multimedia Pathway in Korea

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The human exposure level of cadmium can be varied by environmental level of cadmium and individual life style. This study was conducted to estimate current exposure of cadmium using up-to date in Korea. The exposure estimates were intended to representative of the general adult group with 60kg. This study quantified human exposure level of cadmium through food, air and soil except water because domestic all data was not detected. In order to estimate dietary exposure of cadmium, residue data consisting of 1,389 food products, which have been previously implemented from 1995 to 2001 were collected (KFDA). The foods were classified into 45 commodity groups including grains, potatoes, legumes, fruits, vegetables, fishes and meats. The total dietary intake of cadmium was estimated as the sum of the daily intake by individual food commodity. The air level of cadmium was used as representative data nationally monitored in urban air during a period of 5 years from 1997 to 2001 by the MOE. The soil levels of cadmium representing residential area such as road, park and home site were collected from the national soil monitoring system that was annually monitored in 1,500 sites by land use from 1977 to 2001. Food consumption data from the National Health and Nutrition Survey (MHW, 1999), inhalation volume (13.3 m<sup>3</sup>/day), except for sleeping time and ingestion rate of soil (50mg/day) were considered (U.S.EPA, 1998). The total human exposure level of cadmium for general adult was  $2 \times 10^{-4}$  mg/kg/day and exposure contribution of food, air and soil to the total was 99.5, 0.35 and 0.06%, respectively. This information gives that diet is the main source of the cadmium exposure for the majority of the general adult. This exposure level can be changed according to individual life style such as occupational source and smoking. When the above exposure level was compared with proportionally daily dose base on PTWI (0.007 mg/kg bw/week) of cadmium suggested by FAO/WHO, hazard index was 0.2.

[PA3-21] [ 04/17/2003 (Thr) 14:00 - 17:00 / Hall P ]

### The statistical evaluation on quality of spring water using standard plate count in Seoul

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This study was performed to evaluate quality of spring water in seoul. After the revision the guideline of water quality control on July 2002, the ratio of non-passed samples of spring water increased evidently(2001, 24.5%→2002, 37.5%). So Citizens of Seoul have been worried about what makes the difference between two years. To find out the major reason of that rapid increasement, the experimental results of standard plate count and psychrotrophic bacteria in seoul were used. The mean of standard plate count(n=1143) was  $33 \pm 3$ (mean±standard error) and psychrotrophic bacteria(n=911) was  $193 \pm 11$  during 2001-2002. To make simple three models for statistic method and evaluate quality of spring water depend on region, 25 district area(ku) was divided by Han river. The first was north part and the second was south, and the third was other mountains and parks. The result of significance for standard plate counts was

$p=0.825$  and psychrotrophic bacteria was  $p=0.884$ (level of significance=0.05). Depend on year, contrast to 2001 May, the significance of spring water for standard plate counts was  $p=0.114$  (2002 May),  $p=0.208$ (2002 Nov) and psychrotrophic bacteria was  $p=0.109$ (2002 May),  $p=0.213$  (2002 Dec) separately. There was no significant difference on quality of spring water using standard plate count depend on region in seoul for two years.

Poster Presentations – Field A4. Toxicology

[PA4-1] [ 04/17/2003 (Thr) 14:00 – 17:00 / Hall P ]

**Report on Trends of the Fatalities related to Drug-Toxicant and Drug Abuse in Central Area of Korea in 2002**

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This report surveyed the trends of the fatalities related to the drug-toxicant (DT) and the drug abuse(DA), requested to analyze to the Central District Office of National Institute of Scientific Investigation for a year, 2002.

*The mortality related to DT in men was more common than that in the women. The most common age group of DT intoxication was 30's. The causative DT, detected from the postmortem, were medicine (46.2%), pesticide (39.2%), cyanide (13.3%) and others (1.3%), in order of percentage.*

The kinds of detected causative DT were paraquat (dipyridyl herbicide), cyanide (rodenticide), doxylamine (hypnotic and antihistaminic), acetaminophen (antipyretic & analgesic), caffeine (stimulant), parathion (organophosphorus insecticide and accaricide), cypermethrine (pyrethroid insecticide), chlorpheniramine (antihistamine), ibuprofen (analgesic and anti-inflammatory), endosulfan (organochlorine insecticide and accaricide), and methomyl (carbamate insecticide), in the order of frequency.

Men were more liable to DA than women, and the most common age group of DA was 30's. The detected abuse drugs(AD) were marijuana (42.3%), psychotropic (30.4%), opiate (11%), inhalant (7.9%), dextromethorphan (6.8%), and carisoprodol (1.6%).

Cannabinoid was abused by smoking, injection, oral administration, both smoking and oral administration, both smoking and injection, and methamphetamine, by injection, both smoking and oral administration, inhalation, and both oral administration and smoking, in sequence of frequency.

[PA4-2] [ 04/17/2003 (Thr) 14:00 – 17:00 / Hall P ]

**Case study of cyanide detection in fatalities by fire in Korea**

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Hydrogen cyanide is one of the toxic agents with carbon monooxide in fire victims and is released by combustion of nitrogen-containing organic material such as plastic and wool. Until now there are few reports about blood cyanide concentrations in fatalities by fire in Korea. So in