Organochlorine pesticides and polychlorinated biphenyls(PCBs) have been used intensively in agriculture and industry for a long time. They belong to a group of contaminants whose occurrence in the environment is a serious concern to environmental chemists and toxicologists due to their resistance to degradation in the environment as well as their potential toxicity. Also, the lipophilic characteristics of these substances are responsible for their ability to bioaccumulate in tissues and organs rich in lipids of men and animals through food chain. Therefore, the measure of the levels of organochlorine pesticides and PCBs in adipose tissue and liver of human populations are good markers in determining the extent of exposure and evaluating the hazards. This study was performed to compare concentrations of organochlorine pesticides(α-BHC, β-BHC, γ-BHC, δ-BHC, p,p'-DDT, p,p'-DDD, p,p'-DDE, endrin, dieldrin, aldrin) and marker PCBs(PCB nos. 28, 52, 101, 118, 138, 153, 180) in adipose tissue and liver collected at autopsies of 10 men and 10 women using gas chromatography equipped with electron capture detector and immunoassay, and to express the data on a lipid adjusted basis. From the results, the significant differences in the levels of organochlorines or PCBs between sexes, districts where they had lived and ages were also investigated.

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Genotoxic effects of ambient air pollutants by comet assay

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Single cell gel electrophoresis(SCGE) assay, comet assay is rapid, simple and sensitive technique for measuring DNA-damage with a small number of cells.
This assay enables the detection of various forms of DNA-damage in individual cell levels. It is suggest that comet assay is useful tool to evaluate the genotoxic effect of environment media.
Ambient air particulate matters are classified into two distinct modes in size distribution, namely the coarse and fine particles. Correlation between high particulate concentration and adverse effects on human populations has long been recognized. However, the toxicology of these adverse effects has not been clarified.
We investigated the genotoxic effect of PM2.5-10 collected from urban area in human pleural alveolar epithelial(A549)cells.
Genotoxicity of solvent-extractable organic compound (SEOC) in the particulate was measured by comet assay. SEOC extracts of air particulate matters were sub divided into two equal parts. The DMSO fraction would contain mainly the polycyclic aromatic hydrocarbons(PAH), while the lipid-soluble fraction would be enriched with fatty acids.
Results from comet assay show that SEOC sample induced DNA-damage .
Thus, long-term exposure non-lethal dose of air pollutants may lead to the accumulation of DNA lesions. Which may be one of the mechanisms responsible for the chronic adverse health effects of particulate air pollution.

[PA3-13] [04/18/2002 (Thr) 14:00 - 17:00 / Hall E]

The monitoring on Microbiological Hygiene of Spring Water in Seoul

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Last year(2001), outbreaks of dysentery in south korea and reports of other newly described disease associated with drinking water transmission prompted a reevaluation of source water monitoring criteria for public health protection. The field of microbial indicators was reviewed and each candidate sentinel evaluated in terms of its sensitivity, specificity. But, a clear distinction was made between source spring water monitoring and monitoring in the tap water distribution system in the metropolis.
Microbiological monitoring should be coupled with psychochemical monitoring to establish a long-term history of spring water. Because all natural spring waters vary in the amounts of heterotrophic plate count bacteria, test methods should be employed that are refractory to them. The combination of source spring water protection and regular monitoring serve as sufficient multiple health barriers of residents in Seoul. The