

toxicants are more occurred than women's. And most common intoxicated age group was 40s. These trends of the DA cases and the MDT in Central Area of Korea, can help the forensic toxicologists and government to plan the prevention policy of the DA cases and MDT as well as its future estimation.

[PA3-7] [10/18/2002 (Fri) 09:30 - 12:30 / Hall C]

Analysis of the chemical burn-inducing components from the extraction of herb drug-mixed-medicine

Lee JuSeon^o, Lim MieAe, Choi HyeYoung, Eo SangHeui, Lee HanSun, Park YooSin

국립과학수사연구소 법과학부 약독물과

Psoralen(7H-Furo[3,2-g][1]benzopyran-7-one) and angelicin(2-Oxo-[2H]-furo[2,3-h]-1-benzopyran) are angular furocoumarin with diverse photobiological effects. They are major components of *Psoralea corylifolia* L. (破古紙). *Psoralea corylifolia* L. is used for a tonic and nursing one's energy. It can be also used for loss of virility, vitiligo, a skin disease, etc.. But a well known and often appreciated 'side effects' of psoralens is the hyperpigmentation caused by this treatment.

A women who used the herbal drug-mixed-medicine named 'sobaeksu' to treat her vitiligo made a complaint against the oriental medical doctor. She complained that her skin got burned to 2nd degree by the liquid. 'sobaeksu' through a medical certificate.

So we analyzed the components of that liquid with gas chromatography and gas chromatography/mass spectrometry. It has 57.3% ethyl alcohol and two kinds of psoralens. Psoralens were psoralen and angelicin and each one of their contained quantity was 0.128mg/ml and 0.123mg/ml.

[PA3-8] [10/18/2002 (Fri) 09:30 - 12:30 / Hall C]

Analysis of bufotoxins in toad venom and toad eggs

Lim MieAe^o, Lee JuSeon, Eo SangHeui, Choi HyeYoung, Jeong JinIl, Lee HanSun Park YooSin

국립과학수사연구소 법과학부 약독물과

Chan Su, the dried toad venom, has been used in Asian countries as the traditional medicine for the purpose of the alleviation of pain, cardiotoxic diuresis, hemostasis and et al.. However, Chan Su is the special attention-needed medication because it is known to contain the highly toxic compounds such as bufotenine, an hallucinogen and aphrodisiac, and a series of bufadienolides, cardiotoxic steroids that produce physiological symptoms similar to digoxin.

Several cases of poisoning from the venom of toad were reported in Taiwan and the United States and one case of human poisoning from toad was also found in Korea in 1994. Severe toxicity or death has occurred after mouthing toads and following the ingestion of the entire toad, toad soup, or toad eggs.

The death of a 48-year old man ingested toad eggs has occurred this march. The toad eggs, the entire toads which had laid the eggs, and the fried eggs as well as the biological fluids given through autopsy were collected and analysed.

Bufotenine, one of the bufotoxins, was identified through GC/MS and the cardiotoxic bufadienolides, namely bufalin, cinobufagin and resibufogenin, were also detected through HPLC analysis in the toad venom. Cinobufagin was also identified in the toad eggs. However, no bufotoxins and bufadienolides were detected in the fried eggs and the biological fluids of the deceased.

[PA3-9] [10/18/2002 (Fri) 09:30 - 12:30 / Hall C]

Osteoanagenesis Effect Of Hwang-Chil, a natural resources of Korea

Kim Jin Hee^o, Baek Wun Bong, Shim Kyoo Jung, Choung Se Young

College of Pharmacy, Kyung Hee University, Seoul, Korea

Hwang-Chil, a natural resources of Korea, doesn't have a side effects and has excellent bone cell proliferation. We will be able to use Hwang-Chil to cure and develop various disease that require tissue regeneration, such as osteoporosis and bone fracture and be used in the orthopedic area. In this study, we observed the effect of Hwang-Chil extract and concentration on osteoblast proliferation, alkaline phosphatase(ALP) activity and calcification. For the study, after getting methanol extracts of Hwang-Chil, according to polarity degree, we separated and condensed it sequentially into hexane, chloroform, methanol and water fraction in powder form. And it was prepared by Mg-63, osteoblast-like cell line from human osteomatomoid. In order to observe the effect of Hwang-Chil on cell proliferation, we made three concentrations of 0.001mg/ml, 0.01mg/ml, 0.1mg/ml with Hwang-Chil fraction. In the process of cultivating MG-63 cell line, drugs were added, and they were cultivated for 72 hours. Then, cell proliferation was examined by measuring optical density at 540nm. To measure alkaline phosphatase(ALP) activity, cultivated MG-63 cell line was made into cell lysate with drug in media, and substrate was prepared by dissolving 200mM alanine, 2mM α -keto glutaric acid in 0.1M phosphate buffer, and 2,4-dinitrophenylhydrazine was added, and measured at 540nm. Among Hwang-Chil extracts, hexane, chloroform extracts did not affect the proliferation in concentration of 0.001mg/ml, 0.01mg/ml, and has toxic effect in concentration of 0.1mg/ml. In methanol extracts, proliferation was observed to have the highest in all concentration. When the concentration of fraction the multiplication rate was high, ALP activity appeared to be highest and also ALP activity was diminished when multiplication rate was low. These results suggested that methanol/water fraction could exert stimulatory effect on osteoblast proliferation in addition to enhancing effect on proliferation differentiation, we learned that Hwang-Chil methanol/water fraction has osteoblastogenesis ability.

[PA3-10] [10/18/2002 (Fri) 09:30 - 12:30 / Hall C]

Protection of Paeoniae radix from H₂O₂-induced oxidative DNA damage

Lee SeungCheol⁰, Kwon YongSoo, Heo MoonYoung

College of Pharmacy, Kangwon National University, Chunchon 200-701, Korea

Paeoniae radix is commonly used for various woman's health problems in traditional Korean medicine. In order to develop new antioxidant for woman use, the ethanolic extracts of paeoniae radix (PRE) were prepared and various biological activities were evaluated. PRE showed potent free radical scavenging activity and moderate antioxidative activity in vitro, and also showed the protective effect on H₂O₂-induced DNA damage in mammalian cell. The major constituents such paeonol, paeoniflorin, oxypaeoniflorin, benzoyl paeoniflorin, gallic acid and methyl gallate were isolated from paeoniae radix. Among them, gallic acid and methyl gallate showed strong activities on free radical scavenging and antioxidative effect without any prooxidant effect, whereas paeoniflorin, oxypaeoniflorin, and benzoyl paeoniflorin did not reveal. Gallic acid and methyl gallate also showed the protective effect on H₂O₂-induced DNA damage. Results from the present study demonstrated that Paeoniae radix may be a potential agent for use in the prevention of oxidative stress.

[PA3-11] [10/18/2002 (Fri) 09:30 - 12:30 / Hall C]

Chemopreventive effect of Ginkgo biloba extract on breast cancer: Regulation of estrogen level

Oh SeungMin⁰, KimYunHee, Chung KyuHyuck

Environmental and Preventive Pharmacy, College of Pharmacy, Sungkyunkwan University, Suwon City, Kyunggi-Do, 440-746, Korea

In situ and circulating estrogen is the most important endocrine hormone that promotes the growth of hormone-dependent breast cancer. Consequently, decrease of estrogen on in situ and circulation can inhibit breast cancer. Estrogen is mainly produced by the ovary in premenopausal women and by peripheral tissues such as adipose tissues in postmenopausal women. The cytochrome p450 (CYP19), aromatase, is a key enzyme in the synthesis of estrogen hormones. Estrogen is metabolized hydroxylated estrogen by cytochrome P450 enzymes, which are expressed in the mammary gland, uterus, brain and other target tissues for estrogen action. Ginkgo biloba extract (GBE) is the active ingredients, which is extracted from the dried, tow-lobed fan-shaped leaves of the Ginkgo biloba tree. This contain in 24 % flavonoid glycosides and 6% terpene lactones. It has reported that some of flavonoids inhibit estrogen synthesis and stimulate E₂ metabolism. Therefore, GBE containing in flavonoids is possible to regulate estrogen level, which has important role of breast cancer. However, little is