[PE1-17] [04/21/2000 (Fri) 10:30 - 11:30 / [1st Fl, Bldg 3]]

Preparation and evaluation of Titrated Extract of Centella Asiatica Niosome/W/O system cream for site-specific targeting

Kim DW°, Cho MH, Jee UK, Park JK[1], Park MS[1]

College of Pharmacy, Chungnam National University, Dong Kook Pharmaceutical Co.[1]

Titrated Extract of *Centella Asiatica*(TECA), which is poorly water-soluble extract from the Centella Asiatica, is well known for its express excellent wound healing.
The purpose of this study is prevention, treatment of stretching mark by using multiple emulsion system (Niosome/W/O system).TECA Niosome/W/O system cream was prepared with different concentrations of cetyl alcohol and ceramide.
TECA Niosome/W/O cream was evaluated with respect to their rheological properties, permeation through excised skin of hairless mouse and in vitro and in vivo accumulation in the skin. In addition, dermal thickness of hairless mouse skin was evaluated following the in vivo application of TECA Niosome/W/O cream.
The oil-water partition coefficients of asiaticoside, madecassic acid and asiatic acid were the highest at pH 5 . In the stability test of TECA, remaining percentages of asiaticoside, madecassic acid and asiatic acid in 50 days were almost same in the presence of 1 w/w% tocopherol. The corresponding percentages in the presence of 2% and 3% to tocopherol were little increased. Morphology of niosome with Span 60 and cholesterol was identified by image analyzer. TECA Niosome/W/O system creams showed pseudoplastic flow and hysteresis loop. Viscosity was increased with an increase in the concentration of cetyl alcohol and decreased with an increase in the concentration of ceramide.
The permeation of TECA from formulations through skin of hairless mouse did not observed. In vitro experiment, amount of accumulated drug in the excised skin of hairless mouse was decreased with an increase in the concentration of cetyl alcohol and showed no relationship with concentration of ceramide. Amount of accumulated drug in formulation A-3 was higher than in niosome suspension and FAPG cream. In vivo experiment, amount of accumulated drug in formulation A-2 and A-3 was much higher than that of niosome suspension and FAPG cream.
Being treated with FAPG cream during 8 weeks, the dermal thickness of hairless mouse was 2.6 times higher than that of 16 weeks-control group. The dermal thickness of hairless mouse was 3.7 times higher than that of 16 weeks-control group in the Niosome/W/O cream treatment.
From this study TECA Niosome/W/O system cream showed the possibility of prevention, treatment of stretching marks.

[PE1-18] [04/21/2000 (Fri) 10:30 - 11:30 / [1st Fl, Bldg 3]]

Cytotoxicity of flavonoids against cancer cells <I>in<I> <I>vitro<I>

Choi SU°, Ryu SY[1], Jung NP[2], Song SO[2], Choi EJ, Kim KH, Park SH, Kim JE, Lee CO

Pharmaceutical Screening Center, [1]Bio-Organic Science Division, Korea Research Institute of Chemical Technology, [2]Department of Biology, Yonsei University

Flavonoids are an interesting group of compounds not only because of their abundance and wide distrubution in the plant kingdom but also because of their widespread biological activities. Some Flavonoids revealed a good cytotoxic or cytostatic activity against cancer cells, and they were reported to inhibit certain regulatory enzymes such as protein kinase C and DNA topoisomerases. We have already reported the cytotoxicities of flavone and of some hydroxyflavones against human cnacer cells, and their effects on the cell cycle. In this study, we tested the cytotoxicity of some other flavonoids to human cancer cells including multidrug resistant (MDR) cell lines in vitro. Among the catechins tested, (-)catechin gallate, (-)epicatedchin gallate, (-)gallocatechin gallate, (-) epigallocatechin gallate and (-)epigallocatechin revealed cytotoxicity to the cells, but (-)catechin and (+)epicatechin did not revealed cytotoxicty up to 100 uM. Some other flavonoids such as quercetin and myricetin also revealed relatively good cytotoxicity to the cells.In addition, the