varied between 0.2 and 2㎛ by means of adjusting the system pressure and/or temperature. The proposed method is attractive as the basis of a new process for the preparation of drug delivery system.

[PE1-18] [04/19/2001 (Thr) 15:30 - 16:30 / Hall 4]

Formulation of microemulsion-based hydrogel containing prostaglandin E1 ethyl ester

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Prostaglandin E1 analogues, especially prostaglandin E1 ethyl ester(PGE1-EE), have been focused as a therapeutic agent for erectile dysfunction due to its higher skin penetration property than that of PGE1. A microemulsion-based hydrogel(MHG) containing PGE1-EE was formulated through phase diagram with polyoxyl castor oils, EtOH and medium chain triglycerides(MCTs). In vitro drug penetration characteristics of MHG was investigated using Franz diffusion cell and receptor solution (pH 7.4 PBS : EtOH = 90 : 10) containing PGE1 was assayed by validated HPLC method. PGE1-EE was stable in receptor solution for 6hrs but PGE1-EE was cleaved to PGE1 by skin esterase during penetration. Microemulsion promoted penetration of PGE1-EE, showing the result of 2~3 times higher penetration than that of control hydrogels, e.g. sodium alginate gel. Finally, in vivo pharmacodynamic effects of MHG, such as ICP(Intra Cavernosal Pressure), duration of erection, increment of penile length were investigated with wild male cats.

[PE1-19] [04/19/2001 (Thr) 15:30 - 16:30 / Hall 4]

Formation of peptide adduct during in vitro release of GHRP-6 containing poly(dl-lactide-co-glycolide) microspheres

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GHRP-6 is a synthetic growth hormone-releasing hexapeptide (His-DTrp-Ala-Trp-DPhe-Lys-NH2) which elicits a dosage-related release of growth hormone in vitro and in vivo. GHRP-6 was encapsulated into 50:50 poly(d,l-lactide-co-glycolide) (PLGA) microspheres using oil in water solvent extraction/evaporation method. Spherical microspheres with smooth surface structures were obtained with high encapsulation efficiency. In vitro release test was carried out in 33 mM phosphate buffer, pH 7.0 at 37°C. During in vitro release test, several degradation and/or adduct peaks were detected and some of them were identified by LC/MS/MS. Glycolic acid and lactic acid attributed to the erosion of PLGA during the incubation seemed to be conjugated to the free amino group of N-terminal His and epsilon amino group of Lys5 of GHPR-6. These results indicate that peptide adduct formation should be considered when planning to develop a sustained release peptide formulation using PLGA polymers.

[PE1-20] [04/19/2001 (Thr) 15:30 - 16:30 / Hall 4]

Increased Stability of Recombinant Human Epidermal Growth Factor by Poly(Ethylene Glycol) Conjugation