Synopsis of Original Research Paper

The study of moisturizing effect of oily gel and aqueous gel formed by hydrogenated soybean phospholipids

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Moisturizing effect of oily gel and aqueous gel formed by hydrogenated phospholipids (HSL) were examined by application to healthy female volunteers. Water concentration of stratum corneum was expressed as conductance measuring by high-frequency current. Moisturizing effect was evaluated with water concentration of stratum corneum, water sorption ability and water-holding capacity calculated from water sorption-desorption test. Inside of forearm was chosen for application site, because individual variation was small.

Application of oily gel of liquid paraffin (LP) with HSL 15% improve the water concentration about lOOμS over 2h. Water sorption ability and water-holding capacity also increased significantly. Moreover, addition of soybean phosphatidylcholine (PC) to the gel was effective on prolongation of moisturizing effect. In contrast, oily gel of octyl isononanoate showed no
increase of water concentration and water sorption ability. Only water-holding capacity increased. Addition of PC to the gel improve the moisturizing effect, but it was not as high as that of oily gel of LP. It indicated that character of oil using for gel affected greatly on moisturizing effect of oily gel.

Aqueous gel was formed by addition of 3 % hydrogenated PC to water, water-ethanol (6:4) or water-ethanol-propylene glycol (PG) (6:2:2) mixture. Water concentration extremely increased immediately after application, but decreased to control level withn lOmin except waterethanol- PG gel. Water sorption ability and water-holding capacity increased when water-ethanol or water-ethanol-PG gel was applied. These results suggest that moisturizing effect was depend on the state of hydrogenated PC in vehicle.