

[Chem. Pharm. Bull., 36, 3696 (1988)]

Study on Slow-release of Indomethacin from Suppositories Containing Hydrogenated Soybean Lecithin.

TOSHIAKI NAKAJIMA, YASUJI TAKASHIMA, ATSUSHI FURUYA,
YASUO OZAWA, YOSHIAKI KAWASHIMA*

Indomethacin (IM) slow-release suppositories were prepared using hydrogenated soybean lecithin (HL) as an additive. The suppositories were prepared by the fusion method with IM, HL and Witepsol H-15. The suppositories were evaluated by in vitro testing, X-ray diffractometry, differential scanning calorimetry. IM existed in an amorphous state in the suppositories.

The melting point and hardness of the suppositories increased with increasing HL content. Slow release from suppositories in which the IM content was 10mg was obtained when the HL content was over 300mg. When the IM content was 20mg, the HL content required to obtain the slow-release profile was more than 600mg.

[FUNTAI KOGAKU KAISHI, 25, 371 (1988)]

Evaluation of Compressibility of Pharmaceutical Powders by Residual Die Wall Pressure and Binding Strength of Compacts.

KENICHI SUGIMORI, SHOICHI MORI, YOSHIAKI KAWASHIMA*

The compressibility of powders was evaluated by using residual die wall pressure and measuring the binding strength of the compacted powders. The binding strength was reflected in a saturated curve as the compaction pressure increased. The residual die wall pressure increased in proportion to the compaction pressure. These phenomena explained the capping behaviors during tableting. In the binary mixed powders, the binding strength changed in a complicated way, but the residual die wall pressure changed simply with the composition of the mixture. The ratio of these two values was defined as the capping index, and the actual capping tendency was defined as the capping ratio. Good correlation was observed between this index and ratio.

[FUNTAI KOGAKU KAISHI, 25, 575 (1988)]

The Effects of Surfactants on the Water Dispersibility of Spray Dried vitamin-E Powders.

YOSHIAKI KAWASHIMA,* HIROFUMI TAKEUCHI, HIDETO SASAKI,
TETSUROU HANDA, YASUO MIYAKE, MASANORI KAYANO, KEIZOU UESUGI

Emulsified vitamin E with surfactant and colloidal silica (Aerosil®) in water was transformed into a powder dosage form by a spray-drying technique. The type and the concentration of surfactant in the formulation mainly determined the shape and the size of the dried particles and their redispersibility in water. Those results were closely related to the state of aggregation of colloidal silica caused by the adsorption of surfactant in the feed fluid.