ABSTRACT

The Influence of N-Metilglukamin Within Solid Dispersion of Ketoprofen-PVP K-30 about Disolution Rate of Ketoprofen

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Ketoprofen is a non-steroidal anti inflammatory drug which is usually used for rheumatoid arthritis, osteoarthritis and circumstance of other pain. The major problem with this drug is practically insoluble in water but it has a good penetration on biological membrane, so that dissolution rate is the rate-limiting step of drug absorption process and determine bioavailability of drug after oral administration.

The purposed of this study was to know the influence of N-metilglukamin in solid dispersion of ketoprofen-N-metilglukamin about dissolution rate of ketoprofen. Solid dispersion of ketoprofen-PVP K-30-N-metilglukamin (5:5:1 and 5:5:2) were prepared by solvent method. Dissolution tests were applied to solid dispersion of ketoprofen –PVP K-30 (5:5), ketoprofen-PVP K-30-N-metilglukamin with ratio 5:5:1 and 5:5:2, physical mixtures, and pure ketoprofen in water media.

The results shows that the solid dispersions of ketoprofen-PVP K-30-N-metilglukamin with ratio 5:5:2 were found to have highest dissolution rates. It was caused the solid dispersion systems happen to be amorphous form of physical modifications, as well as the occurrence of ionic interactions between ketoprofen with N-metilglukamin thereby increasing the solubility of ketoprofen. Dissolution of ketoprofen increased as a function of increased N-metilglukamin amount.

Key words : ketoprofen, PVP K-30, N-metilglukamin, solid dispersion, dissolution rate.