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Formulation and *In Vitro* Characterization of Sustained Release Tablets of Lornoxicam

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***SUMMARY*. The aim of current study was to formulate controlled release tablet of lornoxicam. Various matrix based lornoxicam tablets were prepared through direct compression by varying the concentration of ethyl cellulose and methyl cellulose polymers. Compatibility of excipients with active was studied through FT-IR. Micromeritic properties of powder blends were determined and only those formulations exhibiting appropriate flow character were compressed. The physical parameters of tablets were evaluated and multiple point dissolution profile at pH 6.8 was obtained. Dissolution profile of formulations displaying controlled release profile was compared by model dependent and independent methods. FT-IR scans clearly reflect the compatibility of lornoxicam with all excipients. On the basis of physico-chemical characterization and controlled release pattern, LR6 was set to be optimized trial formulation. All trial lornoxicam sustained release formulations (LR1-LR6) obeyed zero-order and Higuchi release kinetics with non-fickian and anomalous transport (n = 0.706 to 1.117).**

RESUMEN. El objetivo del presente estudio fue formular una tableta de liberación controlada de lornoxicam. Se prepararon diversos comprimidos de lornoxicam matrizados mediante compresión directa variando la concentración de polímeros de etilcelulosa y metilcelulosa. La compatibilidad de los excipientes con los principiosactivos se estudió a través de FT-IR. Se determinaron las propiedades micromeríticas de las mezclas de polvo y sólo se comprimieron las formulaciones que exhibían un carácter de flujo apropiado. Se evaluaron los parámetros físicos de las tabletas y se obtuvo un perfil de disolución de puntos múltiples a pH 6.8. El perfil de disolución de las formulaciones que muestran el perfil de liberación controlada se comparó mediante métodos independientes y dependientes del modelo. Los análisis por FT-IR reflejan claramente la compatibilidad de lornoxicam con todos los excipientes. Sobre la base de la caracterización físico-química y el patrón de liberación controlada, LR6 se configuró para ser una formulación de prueba optimizada. Todas las formulaciones de liberación sostenida de prueba de lornoxicam (LR1-LR6) obedecieron a cinéticas de liberación de orden cero y de Higuchi con transporte no fickiano y anómalo (n = 0.706 a 1.117).

KEY WORDS: dissolution profile, lornoxicam, polymers, sustained release.

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