

THE PHARMA REVIEW DECEMBER 2006

Formulation and Evaluation of Dexamethasone Matrix Tablets for Colon Specific Delivery

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Abstract: In the present study guar gum based matrix tablets of dexamethasone were prepared as colon-targeted drug delivery systems for the prevention of Inflammatory Bowel Disease. Matrix tablets with different proportions of gum:drug were prepared by direct compression technique. Prepared matrix tablets were evaluated for their hardness, weight variation, friability test, drug content, thickness and diameter test. Prepared matrix tablets were subjected to the measurement of mass degree of swelling and gel strength and were found to be in the range of 2.56 to 3.16 and 5.30 to 10.05 (ml) for the matrix and immediate release tablets respectively. The swelling of the guar gum-based formulations was found to be linear with increasing percentage of guar gum. In-vitro release studies of formulations were performed for 24 hrs and compared against the control and with the immediate release formulation. All the matrix tablets showed zero order release kinetics. It was concluded that formulation F2-50 (with 50 % guar gum) prolonged the release of drug effectively and thus can be used to target dexamethasone to colon.

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