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Research

Design And Characterization Of Flurbiprofen Matrix Tablets For Colon Targeting

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Abstract

The present study is the development of colon targeted matrix tablets of the drug flurbiprofen,a Nsaids of the class of Ibuprofen designed to prolonged the release for sustained effect.Different formulation(F1 TO F9) batches were made with the help of different polymers and their different proportions (Guar gum,Eudragit RL,Eudragit RS) with the help of Wet granulation techniques.The prepared matrix tablets were evaluated in terms of their pre-compression parameters, physical characteristics like hardness, friability, uniformity of weight, uniformity of drug content, invitro drug release. From this study we concluded that the batch F7 shows good results then the other batches.The batch F7 shows maximum prolong release upto 12 hrs.

Keywords: - : Flurbiprofen ,Colon , Sustained release , Guar gum , Eudragit RL , Eudragit RS.

Introduction

By definition, colonic delivery refers to targeted delivery of drugs into the lower GI tract, which occurs primarily in the large intestine (i.e., colon). The site-specific delivery of drugs to lower parts of the GI tract is advantageous for localized treatment of several colonic diseases, mainly inflammatory bowel diseases (Crohn's disease and ulcerative colitis), irritable bowel syndrome, and colon cancer. Other potential applications of colonic delivery include chronotherapy, prophylaxis of colon cancer and treatment of nicotine addiction [1].

Targeting of drugs to the colon by the oral route could be achieved by different approaches including matrix and coated systems, for which the drug release is controlled by the gastrointestinal pH, transit times or intestinal flora. The method by which the drug release will be triggered by the colonic flora appears to be more interesting with regard to the selectivity. A number of synthetic azo polymers and natural or modified polysaccharides (chondroitin sulphate, guar gum, xanthan gum, locust gum, inulin, dextrans, starch, amylose,pectins) degraded by the human colonic flora, have thus been investigated as colonic drug delivery carriers.[2] The human colon has over 400 distinct species of bacteria as resident flora, a possible population of up to 1010 bacteria per gram of colonic contents. Among the reactions carried out by these gut flora are azoreduction and enzymatic cleavage i.e. glycosides.8 These metabolic processes may be responsible for the metabolism of many drugs and may also be applied to colon-targeted delivery of peptide based macromolecules such as insulin by oral administration.[3]

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