

ABSTRACT

Objective: - The objective of the present study is to develop colon targeted drug delivery system for tinidazole using guar gum as a carrier in the treatment of amoebiasis.

Methods :- Matrix tablet containing various proportion of guar gum were prepared by wet granulation technique using starch as a binder. All the formulation were evaluated for hardness, drug content uniformity, stability study, and were subjected to *in-vitro* drug release studies. The amount of tinidazole released from the matrix tablet at different time interval was estimated by UV method.

Results:- Colon targeted matrix tablet of tinidazole containing 40% guar gum released 7% of tinidazole in the physiological environment of stomach (0.1N HCl) & small intestine (phosphate buffer 7.4 pH) & 91 % in the physiological environment of colon(phosphate buffer 6.8 pH). When the dissolution study was continued in simulated colonic fluids (rat caecal content medium) the matrix tablet containing 40% guar gum released another 98% of tinidazole after degradation into 2-3 pieces at the end of 24 h study.

Interpretation & conclusion:- The result of the studies showed that colon targeted matrix tablet containing 40% of guar gum was most likely to provide targeting of tinidazole for local action in the colon. The colon targeted matrix tablet of tinidazole showed no change either in physical appearance, drug content or in dissolution pattern after storage at 40⁰C / 75% RH for 2 month. IR spectrum showed no interaction between tinidazole & guar gum.

Keywords:- Colon targeted matrix tablet, Tinidazole, Guar gum, Rat caecal content.