

ABSTRACT

Objective: Mucoadhesive buccal tablets using different mixture of cellulose and polyacrylic derivatives were prepared in order to obtain new formulation containing Pantoprazole sodium for gastric ulcer disease treatment.

Methods: Twelve different formulations of Mucoadhesive buccal tablets of Pantoprazole sodium were prepared, which contain polymers such as Carbopol 934p, Hydroxyl propyl methyl cellulose K4, Sodium Carboxyl methyl cellulose, Hydroxyl ethyl cellulose and Hydroxyl propyl cellulose in various combinations. Tablets were prepared by direct compression method and characterized by swelling studies, % matrix erosion, surface PH, bioadhesive strength, *in-vitro* drug dissolution and *in-vitro* diffusion studies.

Result: All the formulation gave the satisfactory result in terms of bioadhesive performance, physical and mechanical properties and surface pH. Drug release and drug diffusion from the tablets were depended on the ratio and type of the polymer used in the formulation.

Conclusion: The best mucoadhesive performance and best in vitro drug release profile were achieved by using Drug: Hydroxyl ethyl cellulose (HEC): Carbopol 934p in a ratio of (1: 0.75: 2.25). The chosen tablet containing 50 mg of Pantoprazole sodium performed 12 h sustained drug release with desired therapeutic concentration.

Keywords: Pantoprazole sodium, Mucoadhesive, Buccal tablet, Gastric ulcer.

