Formulation and Characterization of Film Coated Matrix Tablets of Anti-Anginal Drug

Submitted By

Chauhan Ankitkumar Rameshbhai

Supervised By

Dr. Naazneen Surti

M. Pharm, Ph.D.

Associate Professor

Parul Institute of Pharmacy and Research

Limda, Vadodara.

Abstract

The purpose of the present study was to design and evaluate once-daily sustained release film coated matrix tablets of anti-anginal drug Ivabradine hydrochloride. The tablets were prepared by direct compression method using hydroxyl propyl methylcellulose (HPMC) K4M and K30M, xanthan gum, carbopol 934 and lactose as a channeling agent. Prepared matrix tablets were evaluated for various parameters like hardness, thickness, weight variation, friability, drug content, *in vitro* drug release, drug release kinetics and matrix tablets were film coated using HPMCK4M as a polymer. The optimized matrix tablet had a drug to polymer ratio 1:3:3 for xanthan gum and carbopol 934 offered the required *in-vitro* drug release among the all nine batch and that follow non-fickin diffusion. The evaluation parameters hardness, thickness, weight variation, friability and drug content were found within the limits. This optimized formulation was film coat with 5% HPMC K4M and *in vitro* studies showed that tablets released the drug over a period of 24 hr and 5% fim coating did not change the drug release profile. Hence it can be conclude that a combination of release retarding polymer xanthan gum, release modifying agent carbopol

934 and film coating polymer HPMC K4M can effectively control the drug release for freely water soluble drugs over a period of 24 h.

Keywords: Ivabradine hydrochloride, direct compression, film coated matrix tablet, sustained release.