



International Journal of Pharma Professional's Research



Received on 22 May, 2016; received in revised form, 02 June, 2016; accepted, 23 June, 2016; published 01 July, 2016

FORMULATION AND EVALUATION OF KETOROLAC TROMETHAMINE MICROPARTICLES FOR OCULAR DELIVERY

Shekhar Singh^{*1}, Dr. Anil Middha¹, Dr. Randhir Singh Dahiya²

1. School of Pharmacy, OPJS University, Churu, Rajasthan.

2. College of Pharmacy, MMU, Ambala, Haryana.

Key words:

Ketorolac tromethamine, microparticle,
Ocular Delivery

Correspondence to Author:

Shekhar Singh
Research Scholar
School of Pharmacy,
OPJS University, Churu, Rajasthan

E-mail: shekharsingh47@gmail.com

ABSTRACT: The objective of the present work was to formulate and evaluate microparticles of Ketorolac tromethamine and produced sustained drug delivery for ocular delivery. In this 9 batches (A₁-C₃) of Ketorolac tromethamine microparticle was prepared with chitosan, Sodium Tri-polyphosphate and other ingredients by Iontropic gelation technique. The prepared microparticles were evaluated for different parameters i.e % Drug yield, % Drug entrapment, Surface morphology, Zeta potential and in-vitro drug release for 24hrs in phosphate buffer 7.4 and simulated tear fluid. The best batch was performed stability studies for 6 months. The research concluded that Ketorolac tromethamine microparticles could be alternative for conventional dosage form.

INTRODUCTION:

Microparticles are a type of drug delivery systems in which the particle size ranges from 1 micron to few mm. This microencapsulation technology allows protection of drug from the environment, stabilization of sensitive drug substances, elimination of incompatibilities, or masking of unpleasant taste. Hence, microparticles play an important role as drug delivery systems aiming at improved bioavailability of conventional drugs and minimizing side effects [1].

Material and Method:

Ketorolac tromethamine was acquired as a gift sample from Knox life sciences, Baddi, H.P.

Formulation design:

Ketorolac tromethamine was studied for physicochemical characteristics. Microparticles of Ketorolac tromethamine were produced, by employing technology. Various ingredients were selected, for Ketorolac tromethamine, formulation design of Microparticles as represented in the table no 1.

Preparation of Drug loaded Microparticles:

Iontropic gelation process: Ketorolac tromethamine loaded Microparticles were prepared using ionotropic gelation method. Drug and polymer, in different proportions,