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FORMULATION AND EVALUATION OF MUCOADHESIVE MICROSPHERES OF LORATADINE FOR NASAL DRUG DELIVERY

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ABSTRACT

Intranasal administrative is an ideal alternative to the parenteral route for systemic drug delivery. Nasal mucosa consists of a rich vasculature and a highly permeable structure for systemic absorption. Drug administration through the nasal cavity is easy and convenient. Avoidance of first pass metabolism is the main advantage of nasal route drug delivery. Bioadhesive polymers are used as drug carriers for the nasal drug delivery. The advantage of using Bioadhesive polymer is increase in residence time of the formulation in the nasal cavity and thereby minimizing rapid mucociliary clearance of the therapeutic agent from the site of deposition.

KEYWORDS:- Loratadine, Mucoadhesive, Transdermal, Bioadhesive, Polymers, Nasal Delivery, Microspheres.

INTRODUCTION

Mucoadhesive microspheres include microparticels and microcapsules (having a core of the drug) of 1-1000um in diameter and consisting either entirely of a mucoadhesive polymer or having an outer coating of it, respectively. Microspheres, in general, have the potential to be used for targeted and controlled release drug delivery; but coupling of mucoadhesive properties to microspheres has additional advantages, e.g. efficient absorption and enhanced bioavability of the drug due a high surface to volume ratio, a much more intimate contact with the mucus layer, specific targeting of drug to the absorption site achieved by anchoring plant lectins bacterial adhesion and antibodies *etc.* on the surface of the microspheres. Mucoadhesive microsphere can be tailored to adhere to any mucosal tissue including those found in eye, nasal cavity, urinary and gastrointestinal tract, thus offering the possibilities of