



Review Article

A novel approach of gastroretentive drug delivery : in situ gel**Swapnali R.Shinde*¹, Preeti Sable¹, Babita B. Lodhi¹, Sarfraz khan²**

¹Department of Quality Assurance, Shri Bhagwan College of Pharmacy, N-6, Cidco, Aurangabad. 431001.

²Department of Quality Assurance, Dr. Y.S. Khedkar College of Pharmacy, N-6, Cidco, Aurangabad. 431001.

Abstract

Over the past few decades, advances in in situ gel technologies have spurred development in many medical and biomedical applications including controlled drug delivery. Many novel in situ gel-based delivery matrices have been designed and fabricated to fulfill the ever-increasing needs of the pharmaceutical and medical fields. In situ gelling systems are liquid at room temperature but undergo gelation when in contact with body fluids or change in pH. In situ gel forming drug delivery is a type of mucoadhesive drug delivery system. The formation of gel depends on factors like temperature modulation, pH change, presence of ions and ultra violet irradiation from which the drug gets released in a sustained and controlled manner. Many natural, biodegradable, biocompatible and synthetic polymers like alginic acid, pluronic F127, xyloglucan, gellan gum, carbopol, pectin, chitosan, poly (DL lactic acid), poly (DL-lactide-co-glycolide) and poly-caprolactone etc. are used in the preparation of in situ gelling system. Mainly in situ gels are administered by oral, ocular, rectal, vaginal, injectable and intraperitoneal routes. In situ gelling system becomes very popular nowadays because of their several advantages over conventional drug delivery systems like sustained and prolonged release of drug, reduced frequency of administration, improved patient compliance and comfort.

Key words: Gastro retention, Floating In situ gel, Stomach specific drug delivery, sustained release, biodegradable polymers, floating drug delivery

***Corresponding Author: Swapnali R.Shinde**, Department of Quality Assurance, Shri Bhagwan College of Pharmacy, N-6, Cidco, Aurangabad. 431001. Mobile No. 9665549714 Email: 7swapnalishinde@gmail.com