ABSTRACT

Zidovudine is an anti-retroviral agent, widely used in management of AIDS disease. It has very short half life of less than 3 h and oral bioavailability of 60 ± 10%. The present investigation is concerned with the development of the Microspheres of Zidovudine to target the drug to its absorption site by increasing the residence time of drug in small intestine and to control drug release in therapeutic range for longer period of time. Microspheres of Zidovudine were prepared by Solvent evaporation technique. In this dosage form, hydrophobic water impermeable polymer (EC) is used for controlling the release of the drug. The use of methanol along with dichloromethane improved the surface morphology by eliminating the pores. The surface morphology of the microspheres was characterized by scanning electron microscopy. The formulated Microspheres were evaluated for particle size, % yield, % DEE and in-vitro drug release study. Two months of stability study was carried out at room temperature for best F3 & F7 formulations and results showed no significant changes in percentage drug entrapment efficiency and in-vitro drug release study after stability study. So the F3 & F7 formulation containing 200 mg of Zidovudine, released drug for 12 h within desired therapeutic concentration.

**Key words:** Zidovudine, Ethyl cellulose, Microspheres, Controlled drug delivery system,

W/O/W Solvent evaporation method.