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FORMULATION AND EVALUATION OF RIFAMPICIN MICROSPHERES FOR LUNG TARGETING

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ABSTRACT

The present investigation was aimed to develop lung targeting microspheres as drug carriers to reduce dose/dosing frequency in the management of tuberculosis (TB), Pulmonary drug delivery systems offer many advantages over other conventional drug delivery system such asavoidance of first pass metabolism, large surface area suitable for drug absorption and quicker onset ofpharmacological activity.Microspheres delivery system of rifampicin has been developed by using polymethacrylates polymers like Eudragit L100, EudragitRLPO by solvent evaporation technique and natural polymer chitosan by emulation polymerization technique respectively. Nine different formulations were prepared by using these polymers in drug to polymer ratio of 1:1,1:2 and 1:3.The formulated microspheres were evaluated for various parameters like for particle size, shape, SEM, entrapment efficiency, % yield, in vitro drug release studies. The drug entrapment efficacy of drug loaded microspheres was found to be in the range of 74.9 – 95.5%. In vitro drug release after 8hrs was found to be range of 71.52%-95.9%. The formulated microspheres were found to be spherical with average size range of 18-47µm in diameter. Surface morphology and optical microscopy revealed the size and spherical structure of microspheres could be suitable and utilized for targeting rifampicin to the lung.

Key words: *Rifampicin microspheres, Lung targeting microspheres,Antitubercular drug microspheres and Eudragit-Rifamipin microspheres*