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Microspheres- Imperceptible Drug Delivery System

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Abstract : Microspheres are drug delivery systems which are prepared to get extended or controlled drug delivery to strengthen bioavailability, stability and target the drug to particular site at a predetermined rate. Microparticles are generally have the particle size range from 1–1000 μm size, serve as multiunit drug delivery systems with clear physiological and pharmacokinetic benefits in order to improve the effectiveness, tolerability, and patient compliance. It has been shown that it not only enhances the dissolution of poorly soluble drugs but also employ a remarkable effect on fat metabolism in the body. Microspheres can successfully increase the biological half-life and reduce the therapeutic dose of their drug, thereby reduce the adverse drug reaction. The present review provides detailed discussion of therapeutic feature of microsphere drug delivery including the advantages and disadvantages of microspheres, preparation of microspheres, carriers used, characterization, and applications of microspheres. Microspheres are one of the most promising targeted and effective drug deliveries. A microsphere has a drug located centrally within the particle, where it is closet within a single polymeric membrane. A Microspheres has its drug distribute throughout the particle i.e., the internal structure is a matrix of drug and polymeric excipients. It is the dependable means to deliver the drug to the target site with specificity, if modified and to maintain the desired concentration at the site of interest without unpredictable effects.

Keywords : Microspheres, Types of microspheres, Method of preparation, polymer, drug release, Application.

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