

Formulation and Evaluation of Oral Microsphere of Anti Hypertension Drug

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Abstract: *High blood pressure (hypertension) is a serious health problem that often requires long-term treatment. Many antihypertensive drugs have drawbacks such as a short half-life, low absorption, and frequent dosing, which can reduce patient compliance. Microspheres are tiny particles that can carry drugs and release them slowly in the body. They improve drug stability, extend release time, reduce side effects, and increase effectiveness. Different types of microspheres, such as bioadhesive, floating, magnetic, and polymer-based, can be made using natural or synthetic polymers. In hypertension treatment, drugs like losartan, diltiazem, and metoprolol have been successfully formulated into microspheres, showing better control of blood pressure and reduced dosing frequency. This review highlights the methods of preparation, advantages, limitations, and applications of microspheres, with special focus on their role in improving antihypertensive therapy. Microsphere-based drug delivery offers a promising approach for safer, more effective, and patient-friendly hypertension management.*

Keywords: Microspheres, Antihypertensive drugs, Controlled drug delivery, Sustained release, Bioavailability, Losartan potassium, Hypertension management, Mucoadhesive microspheres, Oral drug delivery, Polymer-based microspheres

