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Formulation and *In-Vitro* Evaluation of Repaglinide Microspheres Prepared by Spray Drying Technique

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SUMMARY. **Repaglinide is a potent second generation oral hypoglycaemic agent widely used in treatment of non insulin dependent diabetic mellitus. The objective of the present study was to develop sustained release microspheres of repaglinide using ethyl cellulose and PEG 6000 as a matrix forming polymer. Microspheres were prepared by taking various concentrations of ethyl cellulose and PEG 6000 by spray drying technique. Prepared microspheres were evaluated for process yield, drug entrapment, particle size, SEM, FTIR, DSC and *in vitro* drug release. Process yield and drug entrapment was 40-45 % and 90-95 %, respectively. Particle size ranged in 5-22 μm and SEM study showed spherical shape and rough surface of microspheres. FTIR study and DSC analysis revealed the stable nature and amorphous dispersion of drug in the polymer matrix. *In vitro* release studies indicate retardation of release upto 12 h which can control both fasting blood glucose level and postprandial blood glucose.**

KEY WORDS: Ethyl cellulose, Microsphere, PEG 6000, Sustained release, Spray drying.

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