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Original Article

Formulation and In-Vitro Evaluation of Matrix Type Sustained Release Tablets of Paliperidone

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Abstract

Paliperidone is a well know dopamine antagonist of the atypical antipsychotic class. In present study Paliperidone was formulated as matrix type sustained release tablets using natural and synthetic polymers separately or in combination. The aim of sustained release formulation is to reduce the frequency of dosing. Tablets were prepared by direct compression method. The optimized formulations contain Paliperidone as active ingredient and hydroxy propyl methyl cellulose, ethyl cellulose, kollidone SR, polyethylene oxide, sodium alginate are used as polymers. The evaluation parameters include the thickness, weight variation test, drug content, hardness, friability and in vitro release studies. The prepared formulations are F1-F9 and among the formulation F2 follows non-Fickian Transport, with Zero order, Higuchi mechanism and F3, F5 and F8 following first order. Based on the results of *in-vitro* studies it was concluded that the natural and synthetic polymers can be used as an efficient matrix former to provide sustained release of Paliperidone. The release of Paliperidone was prolonged for 20 hrs, indicating the usefulness of the formulations for once daily dosage forms. Thus the reducing frequency of dosing increases patient compliance.

Keywords: Keywords: Paliperidone, Kollidone SR, Xanthan gum Hydroxypropyl methylcellulose (HPMC K100).

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