IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.301
Volume 3, Issue 2, November 2023

Formulation and In Vitro, In Vivo Evaluation Oral Dispersible Tablets of Selgiline

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Abstract: *Selegiline, a monoamine oxidase (MAO) inhibitor, is FDA-approved as an adjunct treatment in the management of patients with Parkinson disease and as a treatment for a major depressive disorder (MDD) in adults. Selegiline is also used off-label for early Parkinson disease and the treatment of attention-deficit/hyperactivity disorder (ADHD).In this present research work, an attempt was made to develop solid dispersions for the enhancement of solubility, dissolution and bioavailability of Selgiline and also to find the effect of natural super disintegrants in the development of fast disintegrating tablets. Solid dispersions were prepared by solvent evaporation method using PEG 6000 as carrier in different ratios. The optimized solid dispersions were utilized in the formulation of fast disintegrating tablets using different natural super disintegrants in different concentrations. The prepared tablets were evaluated and subjected to in vitro dissolution studies to select the best formulation. All the formulations showed fast disintegrating action. Among all the formulations dehydrated banana powder containing formulations* ***FF5 (96.72)*** *and* ***FF6 (99.27)*** *showed better release rate of Selgiline from the dosage form. Thus, dehydrated banana powder can be utilized as better regular super disintegrant in the advancement of quickly breaking down tablets when compared to orange peel pectin and mango peel pectin. Finally, the optimized formulations were subjected to pharmacokinetic studies in rabbits. The solid dispersion reached peak concentration (C_{max}) 11445.46 ng/ml at T_{max} of 2 h while it was observed to be 9140.84 ng/ml at T_{max} of 3 h in case of control tablet, indicating that enhancement of absorption in solid dispersion pattern of Selgiline than pure form. The AUC of control and FF6 tablets of Selgiline were 31495.16 and 43126.52 ng-h/ml correspondingly. These results indicated that the FF6 tablet showed enhancement of AUC when compared to control tablet of Selgiline.*

Keywords: Selgiline

REFERENCES

[1] Yonezawa BY and Sunanda H. Rapidly disintegrating tablets of prepared by the wet compression method: Mechanisam and Optimization. J. Pharm. Sci., 88(1), 1999,10004-10
[2] Watanbe Y, Koizumi K, Zama Y and Matsumoto Y. New compressed tablet rapidly disintegrating in saliva in the mouth using crystalline cellulose and a disintegrant. Bio. Pharm. Bull., 18(9), 1995, 1308-10.
[3] Shery J, Arun S and Anroop N. Preparation and evaluation of fast disintegrating effervescent tablets of glibenclamide . Drug Dev Ind Pharm 2009; 35:321-8.
[4] Rikka L, Eero and Mikko B Perphenazine solid dispersions for orally fast disintegrating tablets: physical stability and formulation. Drug Dev Ind Pharm 2010; 36:601-13.
[5] Rikka L, Eero and Mikko B Perphenazine Intra orally fast dissolving particles of a poorly soluble drug: preparation and in vitro characterization. Eur J Pharm Biopharm 2009; 73:162-71.
[6] Banker GS, Anderson NR (1987). Tablets. In: Lachmann L, Liberman HA, Kaing JL, Eds. The theory and practice of industrial pharmacy. 3rd ed. Mumbai: Varghese publishing house, Bombay, p.297-99.
[7] Indian Pharmacopoeia (1996). The controller of publications: Delhi, Vol. II, p.734-36.

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[8] Manglani UR, Khan IJ, Soni K, Loya P and Saraf MN (2006). Development and validation of HPLC-UV method for the estimation of rebamipide in human plasma, Indian J Pharm.Sci 68(4): 475-478.