

Formulation and Evaluation of Lorazepam Orally Disintegrating Tablet

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Abstract

Introduction: oral dosage forms are the safest, the most convenient and the most economical method of drug delivery system in the pharmaceutical industry but, in geriatric and pediatric patients who have swallowing difficulty and in the emergency situations, we need the fastest therapeutic effects on conventional oral drug delivery because of time issue. To troubleshoot? such problems a new dosage form known as orally disintegrating tablets (ODT) can be useful and more effective. Lorazepam is a benzodiazepine drug that stimulates GABA receptor and is used in the prevention of panic attack, management of anxiety disorders, treatment of status epilepticus and etc. Based on these details, ODT form of Lorazepam can be helpful for geriatric and pediatric patients and also handling emergency situations.

Methods and Results: In this study, various formulations were designed and prepared by using direct compression method. All of our formulations contained 2 mg of Lorazepam as API. We used 3 differences bulking agents (mannitol, lactose, avicel) and the percentages of disintegrating agent (5%, 10%, 15% of crosscarmellose). then, for examining our formulations and choosing the best formulation we carried out or conducted physicochemical tests like flowability of powder, tablet appearance, thickness, uniformity of weight, hardness, friability and disintegration time. Finally, one of these formulations (lactose as bulking agent and 10% crosscarmellose as disintegrating agent) which showed optimum physicochemical properties was selected for further studies.

Conclusions: regarding our study and literatures, we attempted to evaluate a novel formulation of Lorazepam ODT. physicochemical test results showed this formulation ideal for developing new dosage forms of Lorazepam for resolving some of the patient's problems.

Key words: ODT, Lorazepam, Crosscarmellose, Disintegrating

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