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REVIEW ARTICLE

Review on Application of Fastly Disintegrating Tablets

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ABSTRACT

The aim of this study was to a review on application of fast disintegration tablets. The disintegrate tablets disintegrate rapidly in mouth in seconds when placed at the tongue. The fast disintegration tablets were prepared using super disintegrants like crospovidone, croscarmellose, gellan gum, and banana powder, sodium glycolate. These components used in the formation of fast disintegration tablets should allow quick release of the drug, resulting faster disintegration and dissolution. These excipients balance the properties of the active drug, thus the chemistry of these excipients should be studied to prevent interaction with the active drug. From the above studies, it was conclude that fast disintegration tablets used to fast dissolution drugs, rapid onset action, convenient to manufacture.

Keywords: sodium glycolate, crospovidone, croscarmellose, sodium glycolate

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1. Introduction

Fast disintegrate tablets, disintegrate or dissolution quickly in the oral cavity or swallowed without the water for the administration. Fast disintegrating tablets are not only indicated for people who have swallowing difficulties, but also are ideal for active people. Fast disintegrating tablets are also called as mouth dissolving tablets [1]. Fast disintegrating tablets are fast absorption of water in to the core of the tablets and disintegration of associated particles

into individual components for fast dissolution. The tablets were evaluated for pre-compression and post-compression parameters. Valsartan and crospovidone as a super disintegrant showed least disintegration time and faster dissolution [2]. Fast disintegrating they should have a pleasing mouth feel, most commonly used method to prepare these tablets are freeze drying / lyophilization tablets molding and direct compression methods.

Lyophilized tablets show a very porous structure, which causes quick penetration of saliva into the pores when placed in the oral cavity. The rapid disintegration of fast dissolving tablets fast disintegration tablets is the preparation of a porous structure in the tablet matrix. Hypertension is one of the most prevalent chronic adult illness today and cannot be cured, but can be controlled. The pharmacological treatment for control of hypertension utilizes various drug therapies such as single doses or association of diuretics, beta-blockers, calcium channel blockers, angiotensin converting enzyme inhibitors and angiotensin II receptors antagonist. The treatment of anti hypertension therapy needs long duration and to maintain plasma concentration the constant drug release due to overcome of toxic effects. so to design controlled delivery system of Valsartan for gradual release of drug in amounts sufficient to maintain therapeutic response for a specific period of time and to maintain dose frequency. In vitro dissolution study conducting different mediums 0.1N HCl for 2 hrs, 7.4 phosphate buffer up to 22hrs. This volatile material is then removed by sublimation leaving behind a highly porous matrix. In present research work an attempt has been made to prepare fast disintegrating tablets of valsartan by using vacuum drying technique [3].

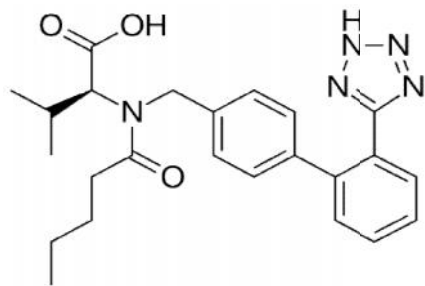


Fig.1: Chemical structure of valsartan

2. Excipients for fast disintegration tablets

Fast disintegration tablets should allow quick release of the drug; resulting in faster disintegration and dissolution.

- The main excipients used are super disintegrates, sugar based excipients and taste masking agents.
- Excipients balance the properties of the active drug thus the chemistry of these excipients should be studied to prevent interaction with the active drug.
- The role of excipients is important in the formulation of fast disintegration tablets because they were incorporated in the formulation; impart the desired organoleptic properties and products efficacy.
- The excipients with good aqueous solubility will facilitate disintegration / dissolution.
- The saccharides such as mannitol, sucrose, lactose, glucose and xylitol are used frequently in formulating fast disintegrating tablets mannitol is one of the most commonly used excipients for the developments of fast disintegration tablets. Because of its water solubility.

- It also produces a unique cooling sensation in the mouth and has a pleasant taste.
- Sucrose can act as a dry binder in the amorphous state by undergoing a phase transition and also as a liquid binder during wet granulation [4].

3. Applications for fast disintegrating tablets

The fast disintegration tablets shown the following applications

- They provide high drug loading and good chemical stability as compared to liquid.
- They are unit dosage forms and hence do not need measuring the dose, which is an essential drawback in the case of liquids.
- They are suitable during travelling or other such situation where water may not be available.⁽⁵⁾
- They have a pleasing mouth feel, odor and taste along with sufficient strength to withstand manufacture, packaging, storage and handling.
- The onset of action is rapid from fast disintegration tablets due to fast dissolution of drug.
- The current methods of taste masking in fast disintegration tablets include sweeteners and flavors.
- Taste masking is of critical importance in the formulation of acceptable fast disintegration tablets [6].

4. Conclusion

Crospovidone can be successfully used in the formulation of fast disintegration tablets. From the above studies, it was concluded that fast disintegration tablets containing crospovidone is most acceptable.

5. References

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