

12th World Congress on Pharmaceutical Sciences and Innovations in Pharma Industry &

9th Edition of International Conference on Alternative Medicine

February 26-28, 2018 London, UK

Designing and evaluating of oral nanoparticle dutasteride tablet dosage form

Mozhdeh Hemati, Fereshteh Bagheri and Reza Tahvilian
Kermanshah University of Medical Sciences, Iran

Dutasteride is a potential and selective inhibitor of both types of 5 α -reductase enzyme which converts testosterone to dihydrotestosterone. Therefore, the treatment of Benign Prostatic Hyperplasia (BPH) is performed by inhibiting 5 α -reductase. Dutasteride indications are BPH and men's alopecia and marketed as a capsule dosage form. In many aspects, nano tablets have significant advantages to capsules, for instance in the specificity, dosage release, efficacy and side effects. Moreover, nano drug delivery method is effective, controlled and targeted. The purpose of this study is to prepare new tablet formulation containing dutasteride nanoparticles to improve the Intestinal absorption. This system was prepared by Eudragit RP40 and dutasteride dissolved into ethanol, tween 80, benzalkonium chloride, and distilled water. The mean particle size and zeta potential were determined using Photon Correlation Spectroscopy (PCS) using a Malvern Zeta sizer. The dutasteride-loaded Eudragit nanoparticles with a mean particle size nearly 155 nm and PDI 0.136 were prepared by simple and fast method. Then the nano dutasteride formulated as a tablet dosage form. The drug release and other physico- chemical control tests were assessed. The obtained results revealed that nano tablet dosage form is more suitable as compared to capsule and tablet ones.

Recent Publications:

1. Kamila M M, Mondal N, Ghosh L K (2010) A validated spectrophotometric method for determination of dutasteride in bulk drug and pharmaceutical formulations. *Intl. J. of Pharma Tech.* 2(1):113-117.
2. Choi Y H, Cho S Y, Cho I R (2010) The different reduction rate of prostate-specific antigen in dutasteride and finasteride. *Korean J. Urol.* 51(10):704-708.
3. Xie X, Yang Y, Chi Q, Li Z, Zhang H et al. Controlled release of dutasteride from biodegradable microspheres: *in vitro* and *in vivo* studies. *PloS one.* 9(12):e114835.
4. Min Soo Kim (2013) Influence of hydrophilic additives on the supersaturation and bioavailability of dutasteride-loaded hydroxypropyl- β -cyclodextrin nanostructures. *Int. J. of Nanomedicine.* 8:2029-2039.
5. Dong Hoon Lee, Dong Woo Yeom, Ye Seul Song, Ha Ra Cho, Yong Seok Choi, Myung Joo Kang, Young Wook Choi (2015) Improved oral absorption of dutasteride via Soluplus®-based supersaturable self-emulsifying drug delivery system (S-SEDDS). 478(1):341-347.

Biography

Mozhdeh Hemati is last semester student of pharmacy in Kermanshah University of Medical Sciences, Kermanshah, Iran.

mojdeh_hemati@yahoo.com

Notes: