



Controlled Release Society Indian Chapter

One Day National Seminar on

Translational Research: From Bench to Bedside

Sunday, 17th November, 2019

SOUVENIR & ABSTRACT BOOK

Organized by -

All Pharmacy Colleges

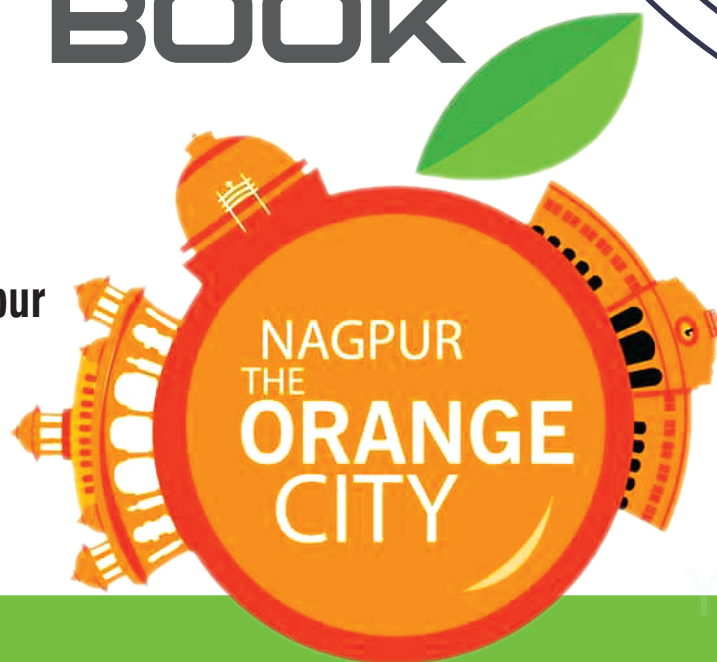
Affiliated to R.T.M. Nagpur University, Nagpur

Venue :

Hotel Tuli Imperial

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SOUVENIR

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FORMULATION DEVELOPMENT AND EVALUATION OF INTRANASAL MUCOADHESIVE MICROSPHERES OF LURASIDONE HYDROCHLORIDE BY USING NATURAL AND SYNTHETIC POLYMERS

Pathak V.R*, Khan Shoeb, Gangane P.S.

Dadasaheb Balpande College of Pharmacy, Besa, Nagpur, Maharashtra, India. 440037.

Abstract:

Aim: Formulation development and evaluation of intranasal mucoadhesive microspheres of Lurasidone HCl by using natural and synthetic polymers. **Objective:** To reduce nasal mucociliary clearance of drug using mucoadhesive polymers for enhancement of contact time of drug in nasal mucosa which improves systemic drug absorption to avoid the pre-systemic metabolism of drug. **Methodology:** The microspheres were prepared by conventional spray drying method using chitosan and Eudragit L100 polymer. The drug was dispersed in polymeric solution (feed). The dried particles formed by evaporation were separated by using cyclone with the help of vacuum or filter. **Results and discussion:** Optimized batch of chitosan and Eudragit 100 microsphere showed 74.83 % and 79.41% cumulative drug release within 5 hr. Ex-vivo drug permeability study reveals that chitosan and Eudragit microsphere batch showed 76.36 % and 80.18% drug release within 5 hr. It shows that optimized batch of eudragit microsphere had highest drug permeability. Histopathology studies showed that both formulations do not cause any deleterious response on sheep nasal mucosa. **Conclusion:** From all the parameters studied it was concluded that Spray drying technique was suitable for preparation of mucoadhesive microspheres of Lurasidone HCl. It was found that there was increase rate of absorption and contact time of drug in the nasal mucosa. So, the natural polymer chitosan and synthetic polymer eudragit L 100 are better mucoadhesive polymers for the formulation of mucoadhesive microspheres of Lurasidone HCl for intranasal.

Keywords

Mucoadhesive polymers, Nasal drug delivery, Spray drying technique

