SRDHS
SOCIETY FOR RESEARCH DEVELOPMENT IN HEALTH SCIENCE

Society for Research Development in Health Sciences (RDHS),
Sponsored

2nd International Conference

Organized By
Ambe Durga Education Society's
Dadasaheb Balpande College of Pharmacy
(Degree and Diploma),
Near Swami Samarth Dham Mandir, Besa,
Nagpur-440037, Maharashtra, India.

on 14th and 15th February 2020

Theme:
"Invigorating Research in Pharmaceuticals: Reasonable Industrial Approach"

Venue: Hotel RE-GEN-TA, CENTRAL Nagpur. Jagnade Square, Nandanvan, Nagpur, Maharashtra, India.

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DEVELOPMENT AND EVALUATION OF ION-EXCHANGE RESIN BASED TASTE MASKED EXTENDED RELEASE PRODUCT

Singh K.P, Ganagane P.S, Mahajan N.M
Dadasaheb Balpande College of Pharmacy, Dept. of Pharmaceutics, Besa, Nagpur, Maharashtra, India-440037
kiransingh23051996@gmail.com

ABSTRACT

The aim of present work is to develop robust, stable, taste masked extended release micropellets of Dextromethorphan HBr. The objective of the current research work is to formulate the robust, stable & extended release taste masked micro pellets and to mask the bitter taste of drug by means of complexation with ion exchange resin. The preformulation studies include physiochemical characterization of solid and solution properties of compounds. HPLC was done to check the compatibility of drug with various tableting excipients. Drug - resin complex was prepared and from the observations of development and optimization data, it was proposed to manufacture batch of Drug-Resin complex and ethyl cellulose coating was proposed to be evaluated to control the release for micro pellets. Dextromethorphan HBr is quickly absorbed in GIT within 2-2.5 hr. The criterion for effective taste masking was absence of any bitter taste. After 5 hours of stirring, it was seen that no further complexation occurs. The dissolution behavior of Drug-Resin complex shows 50% drug release in 3 hrs. No significant change seen in dissolution profile of Dextromethorphan HBr: Amberlite IRP 476 EC coated complex in post stability dissolution testing done after 1 Month (40o/75% RH) and 3 Months (25o/60% RH and40o/75% RH) at different conditions.From this study it was concluded that complexation of Dextromethorohan HBr. with Amberlite IRP 476 gives satisfactory drug loading in 1:3 ratio. After 27.78% of solvation coating the particle size of complex increases with no significant change in dissolution period and 20% of EC coating gives not more than 60% of drug release in 12 hours, results in extension of drug release from the micropellets.

Keywords Extended release micropellets, dextromethorphan HBr, complexation.

FORMULATION AND EVALUATION OF DOMPERIDONE FAST DISINTEGRATING TABLETS

Dehankar Gauri S.[1], Taley Prajkta K.[2], Tekade B. W.[2], Thakre Vinod M.[1], Patil V. R.[2]
[1]. Dadasaheb Balpande College of Pharmacy, Besa, Nagpur, MS, India
[2]. TVES's HLMC College of Pharmacy, Faizpur, MS, India. gauridehankar@gmail.com

ABSTRACT

The present work was to study various disintegrating agents along with domperidone to prepare the fast disintegrating tablets of domperidone by direct compression. Formulations were prepared using direct compression technique, each containing 20 mg of Domperidone. All formulations (D1-D5) were prepared by using 2%, 3%, 4% & 5% of Cross carmellose sodium,2%, 4% ,6% & 8% of Sodium starch glycolate and 4%, 6%,8% to 10% agar to the total weight of pharmaceutical ingredients. The results of the drug – excipient compatibility studies revealed that there was no chemical interaction between the pure drug and excipients. it was observed that formulations with cross-carmellose sodium, Sodium Starch glycolate and agar as disintegrants exhibited quicker disintegration. It indicated that amongst the disintegrants used sodium starch glycolate and Agar were better disintegrants to formulate rapidly disintegrating tablets by direct compression method for Domperidone. It can be conclude that diluent - disintegrant combination to formulate rapidly disintegrating tablets of Domperidone.

Keywords Domperidon, Disintegrating tablets, Cross-carmellose sodium, Sodium Starch glycolate