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Research Article

Formulation, Optimised and Evaluation of Mouth dissolving film of Amoxapine

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ABSTRACT

Amoxapine is orally active, acts by decreasing the reuptake of norepinephrine and serotonin and used for depression. The research work was undertaken to formulate, optimize and evaluation of mouth dissolving film of amoxapine, so that rapid release of drug constituents and give faster action. Mouth dissolving film (MDF) is a better alternative compared to oral disintegrating tablet due to patient compliance. Amoxapinebelongs to Biopharmaceutics Classification System ClassII, means drug have low solubility. The problem is resolved by using Polomer188. MDF prepared by solvent casting method. For preparation of film, hydrophilic polymers were selected as film forming polymers. Different polymers were selected such as different grades of Hydroxyl Propyl Methyl Cellulosei.e. E5, E15, E50.Selection of plasticizer was also done and PEG-400 was found best giving better results. It was found that formulation contain desiredphysio-mechanical properties.

Keywords- Depression, Patient Compliance, BCS II, Polomer188, Solvent Casting

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1. INTRODUCTION:

Mouthdissolving thin film is widely used drug delivery system because of its various benefits. MDF when come in contact with saliva, it dissolves within a second, without the need of water. It increases patient compliance makes formulation suitable for paediatric and geriatric patients[9]. Most of the polymers used in MDFare amorphous inform, dispersion of drug in polymer matrix aids rapid dissolution[8]. Their advantages enhance the patient compliance and give faster action which makes pharmaceutical manufacturer invest money in change of the existing products in the market to MDF[1].Amoxapine is a potent, orally active inhibit norepinephrine and serotonin reuptake, use in the treatment of major depression[7]. It also has atypical anti-psychotic property and use in management of schizophrenia[6]. It may also be used in the treatment of depression accompanied by anxiety and agitation. Amoxapineis availablein tablets 25,50or 100 mg[8]. It is white to off-white powder, bitter. Amoxapine is practically insoluble in water and categorized to BCS class II (low soluble, high permeable). It is poor aqueous solubility and dissolution delay the rate of absorption[5]. Formulation of amoxapine MDF would improve aqueous solubilityby solid dispersion method along with fast dissolution of amoxapine in mouth itself resulting in faster drug absorption starting from oral cavity, itself leading to rapid management of depression[6]. The main challenges for preparation were taste masking and improving the aqueous solubility of the drug as medications that enter the oral cavity, it should have an acceptable taste[7]. One among the major problemthat prevents patient from adhering to a prescribed medication regimen is the unacceptable taste of active pharmaceutical ingredients (APIs) in this dosage form[2]. Taste plays an important role in the development of any oral formulation, with respect to patient compliance, and affect the market penetration of oral formulations, especially in manufacture for paediatricpatients[3].

Polomer188 increases the aqueous solubility of poorly soluble drugs by forming complexes by solid dispersion,

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Review Article

Coronavirus Disease-2019 (COVID-19): An Overview

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ABSTRACT

There is a new public health crises threatening the world with the emergence and unfold of two019 novel coronavirus (2019-nCoV) or the severe acute metabolism syndrome coronavirus two (SARS-CoV-2). COVID-19 is a spread of coronavirus is the family Coronaviridae. The malady is believed to originate from crackers Associate in Nursing was unfold to people through unknown medium in an exceedingly town, China. Severe acute metabolism syndrome coronavirus 2 (SARS- CoV-2) could also be a very transmissible and infective coronavirus that emerged in late 2019 and has caused an outbreak|avirus|a virulent disease|a pestilence} of acute disease, named, 'coronavirus malady 2019' (COVID-19), that threatens human health and public safety. throughout this Review, we have a tendency to to tend to explain the essential medicine of SARS- CoV-2, together with genomic characteristics, and receptor use, lightness its key distinction from antecedent acquainted coronaviruses. we have a tendency to to tend to summarize current data of clinical, medicine, and pathological choices of COVID-19, additionally as recent progress in animal models, and antiviral treatment approach for SARS- CoV-2 infection. we have a tendency to to tend to to boot discuss the potential life hosts and disease origin of this rising virus well.

Keywords 2019-nCoV COVID-19 eruption, SARS-CoV-2 Novel coronavirus

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INTRODUCTION

The two019 novel coronavirus (2019-nCoV) or the severe acute metabolism syndrome corona virus two (SARS-CoV-2) as a result of it's presently remarked as, is quickly spreading from its origin on metropolis city of Hubei Province of China to the rest of the world. Origin SARS-CoV-2 could also be a member of the family Coronaviridae and order Nidovirales[1]. The family consists of two sub-families, Coronaviridae and arbovirus and members of the taxon Coronavirinaeare divided into four genera: (a) Alphacoronavirus contains the human coronavirus (COV)-229E ndHCoV-NL63; (b)Betacoronavirus includes HCoV-OC43, Severe Acute metabolism Syndrome human coronavirus (SARS-CoV), HCoV-HKU1, and geographical region metabolism syndrome coronavirus (MERS-CoV); (c)Gammacoronavirus includes viruses of whales and birds, and; (d)Deltacoronavirus includes viruses isolated from pigs and birds.SARS-CoV-2 belongs to Betacoronavirus at the side of two extraordinarily infective viruses, SARS-CoV and MERS-CoV. SARS-CoV-2 is Associate in Nursing engulfed and positive-sense fiber RNA (+SS RNA) virus[2].SARS-CoV-2 is taken under consideration a singular human-infecting Betacoronavirus. The coronaviruses are seen below the magnifier as a result of it possesses a crown-like look. Ideally, the full spreading and associated health risks of the malady build it's a very important agent[3]. Primarily, human kinds of coronavirus square measure joined to minor clinical symptoms. At an equivalent time, the world Health Organization (WHO) have conducted studies and work analysis to identify the new strain of COV, selected as COVID-19. On the alternative hand, the International Committee on Taxonomy of Viruses spoken the disease-causing virus as a result of the SARS-CoV-2 virus[4].

Origin and of covid-19

In Gregorian calendar month 2019, adults in urban center, capital town of Hubei province and a serious transportation hub of China started presenting the native hospitals with

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Review Article

Drug Repurposing: An Overview

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ABSTRACT

Drug repurposing (also known as drug repositioning) means finding novel indications for currently marketed drugs. This strategy may reduce the costs of new drug development and advance the delivery of new therapeutics to patients with incurable diseases. By specifically regulating multiple targets, more effective drugs can be developed through polypharmacology. Drug repositioning is underpinned by the fact that common molecular pathways contribute to many different diseases. Various data-driven and experimental approaches have been suggested for the identification of repurposable drug candidates; however, there are also major technological and regulatory challenges that need to be addressed. In this Review, we present approaches used for drug repurposing, discuss the challenges faced by the repurposing community and recommend innovative ways by which these challenges could be addressed to help realize the full potential of drug repurposing.

Key Words: Drug repositioning, drug discovery, drug library, multiple targeting, cellular pathways.

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INTRODUCTION

Drug repurposing (also known as drug repositioning, drug reprofiling, indication expansion or indication shift) involves establishing new medical uses for already known drugs, including approved, discontinued, shelved and experimental drugs. Although this strategy is far from new, it has gained considerable momentum in the last decade: about one-third of the approvals in recent years correspond to drug repurposing, and repurposed drugs currently generate around 25% of the annual revenue for the pharmaceutical industry [1]

Drug repositioning refers to the identification of new indications from existing drugs and the application of the newly identified drugs to the treatment of diseases other than the drug's intended disease. A well-known example of drug repositioning is the use of sildenafil (Viagra) in erectile dysfunctions. Sildenafil is an inhibitor of cyclic guanosine monophosphate (cGMP)-specific phosphodiesterase type 5 (PDE5) and was originally developed for the treatment of coronary artery disease by Pfizer in 1980s. The side effect of sildenafil, marked induction of penile erections, was serendipitously found during the Phase I clinical trials for the patients with hypertension and angina pectoris [2]. After sildenafil failed in Phase II clinical trials for the treatment of angina, it was redirected to the treatment of erectile dysfunctions.

Sildenafil received a US-Food and Drug Administration (FDA) approval and entered the US market in 1998, quickly becoming a blockbuster. Another well-known example of drug repositioning is thalidomide. Thalidomide was originally developed as a sedative by the German pharmaceutical company Grünenthal in 1957. It had been used to alleviate morning sickness in pregnant women. Not long after the drug was introduced, it was found to cause serious birth defects. More than 10,000 children in 46 countries were born with malformation of the limbs and other body extremities due to the use of thalidomide, and around half of them died within a few months after birth [3], leading to its withdrawal from the market. In the ensuing

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PHARMACEUTICAL GEL: A REVIEW

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Abstract

The topical routes, like ophthalmic, rectal, vaginal and skin offer certain visible advantages for drug delivery like direct application of drug to the location of action and persistence of action for prolonged periods of your time. Skin is one among the foremost readily accessible and main route for topical drug delivery. Gels represent semisolid dosage forms, intended for skin application or to some mucosal surfaces either for local action or for emollient properties. Gel is preferred for topical application because of more stability and better application property.

The main objective of this article is to review all the knowledge associated with gels like structure, properties, characteristics, classification, uses, polymers, formulation, evaluation and future scope of gels. A gel may be a cross-linked polymer network swollen during a liquid medium. Its properties depend strongly on the interaction between solid state polymer and therefore the liquid component. Gels exhibit no steady-state flow. The interaction between polymers and also the liquid dispersing medium form an interlacing three dimensional network of particles of dispersed particles.

The increased viscosity caused by interlacing and consequential internal friction is accountable for the semisolid state. Topical gel formulation provides an appropriate delivery system for drugs because they're less greasy and may be easily aloof from the skin. Gel formulation provides better application property and stability as compared to cream and ointments.