wjpls, 2021, Vol. 7, Issue 10, 83 – 88. Review Article ISSN 2454-2229

World Journal of Pharmaceutical and Life Sciences
WJPLS
www.wjpls.org SJIF Impact Factor: 6.129

PHARMACEUTICAL LIPOSOMAL DRUG DELIVERY: A REVIEW OF NEW DELIVERY SYSTEMS

D. M. Vitthale*, T. P. Nimbekar, P. S. Raghu, C. P. Ramteke and S. P. Gihrepunje

Bajiraoji Karanjekar College of Pharmacy, Sakoli, Dist.- Bhandara, Maharashtra 441802, India.

***Corresponding Author: D. M. Vitthale**
Bajiraoji Karanjekar College of Pharmacy, Sakoli, Dist.- Bhandara, Maharashtra 441802, India.

Article Received on 09/08/2021 **Article Revised on 30/08/2021** **Article Accepted on 20/09/2021**

ABSTRACT

Liposome are most placed acquiring in pharma industries and very useful in the various drug delivery system used to target the drug to particular tissue because of structural similarity between lipid bi-layer and cell membrane, liposome can easily penetrate. Liposome can be encapsulating both hydrophilic and hydrophobic material and are utilizes as a drug carries in drug delivery. Liposomes very useful in certain disease and easily prepare. Liposomes are highly biocompatible, with application ranging from delivering enzymes, antibacterial, antiviral drugs antiparasite drug, transdermal transporters, fungicides, diagnostic tools and adjuvant for vaccines. This paper mainly focus on exclusively scalable techniques and also focus on strength, respectively, limitations in respect to industrial applicability and regulatory requirements concerning liposomal drug formulation based on FDA and EMEA.

KEYWORDS: Liposome, Regulatory requirements, Hydrophilic and hydrophobic.

INTRODUCTION

Liposomes consist of vesicles composed of bilayers or multilayers that contain or have phospholipids and cholesterol surrounding an aqueous compartment. Drug is entrapped within the liposome and is released from the liposome for absorption at the intestinal membrane surface. This dosage form received considerable and this may well relate to their absorption enhancing ability, the feasibility of their use to promote drug absorption is uncertain drugs or chemical entities. Advances in combinatorial chemistry have led to the discovery of a wide number of new chemical entities (NCE) or drugs that have a potential therapeutic action on the biological systems. But most of the NCEs or drugs being discovered provide a challenge or produce most difficulties to the formulation scientist because of their physicochemical properties like poor solubility and permeability. A majority of anti-neoplastic agents, which are highly cytotoxicity to tumor cells in vitro, affect the normal cells also. This is due to their low therapeutic index (TI), i.e., the dose required to produce anti-tumor effect is toxic to normal cells. Such drugs have to be targeted to a specific site (diseased site) in order to reduce their toxic effects to normal tissues. Hence, an efficient drug delivery system is required to present the maximum fraction of administered dose at the target site or valuable for targeted sites. (Amidon et al., 1995).

Liposomes are colloidal carriers, having a size range of 0.01–5.0μm in diameter. Indeed these are bilayer vesicles that are formed when phospholipids are hydrated in excess of aqueous medium or aqueous solution. Liposomes have got a potential advantage of encapsulating hydrophilic as well as hydrophobic drugs and targeting them to the phospholipids are hydrated in excess of aqueous medium.

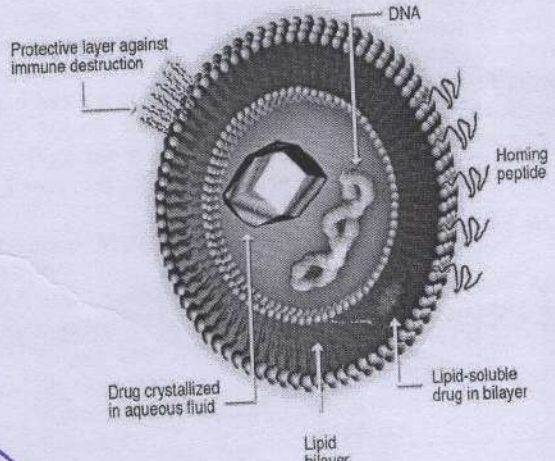

Fig. 1: Liposome for drug delivery.

Officiating Principal
Bajiraoji Karanjekar
College of Pharmacy, Sakoli