

Taste Masking of Azithromycin By Micro Encapsulation

Undesirable taste is one of several important formulation problems that are encountered with certain drugs. The problem of bitter and obnoxious taste of is a challenge to the pharmacist in the present scenario. Several oral pharmaceuticals and bulking agents have unpleasant, bitter-tasting components. The desire of improved palatability in these products has prompted the development of numerous formulations with improved performance and acceptability. This paper reviews different methods are available to mask undesirable taste of the drugs, with the applications. Popular approaches in the development of taste masking are based on coating, solid dispersion system and ion exchange resin.

There are numerous pharmaceuticals that contain actives, which are bitter in taste. With respect to OTC preparations, such as cough and cold syrups, the bitterness of the preparation leads to lack of patient compliance. The problem of bitter and obnoxious taste of drug in pediatric and geriatric formulations is a challenge to the pharmacist in the present scenario. In order to ensure patient compliance bitterness masking becomes essential. Molecule interacts with taste receptor on the tongue to give bitter, sweet or other taste sensation, when they dissolve in saliva. This sensation is the result of signal transduction from the receptor organs for taste, commonly known as taste buds. These taste buds contain very sensitive nerve endings, which produce and transmit electrical impulses via the seventh, ninth and tenth cranial nerves to those areas of the brain, which are devoted to the perception of taste.

Two approaches are commonly utilized to overcome bad taste of the drug. The first includes reduction of drug solubility in saliva, where a balance between reduced solubility and bioavailability must be achieved. Another approach is to alter the ability of the drug to interact with taste receptor.

Method of taste masking by Microencapsulation:-

The problem of providing patient with drug dosage forms that are palatable has been around for long time. The problem of orally taking drugs of bitter nature type is more prevalent in pediatric and geriatric patient than in normal adults. There are number of methods available for taste

masking of drugs like use of taste masking agent, solubility limiting method¹, complexation with ion exchange resins, complexation with cyclodextrin, microencapsulation, multiple emulsion, vesicles and liposome's.

Microencapsulation has utilitarian value in taste masking where small drug particles can be coated with polymer. These small coated particles can be readily formulated into the aforementioned dosage forms. When the dosage form is placed in the mouth as liquid or masticated with a chewable table, the polymer coated drug cannot contact the taste buds in the mouth and hence objectionable taste of bitter drug is eliminated. A large number of bitter drug have been microencapsulated such as Cefuroxime axetil with cellulose acetate phthalate and hydroxyl propyl methyl cellulose , Flucoxacillin with ethyl cellulose , Clarithromycin with amino alkyl – methylacrylate – polymer E, Beclamide with gelatin⁰ and many more drugs like Acetaminophen & Naproxen⁴. Among the numerous microencapsulation methods. The solvent evaporation method was selected for the preparation of Tinidazole microsphere. The technique affords easy, cost effective manufacture of microsphere with a relatively high drug loading. Appropriate combination of starting materials and other additives were selected and varied along with different variables to produce Tinidazole microspheres of suitable composition, morphology and drug release characteristics. The microcapsules were formulated into Reconstitutable suspension and the stability study of suspension was carried out. Therefore, the present study was under taken to determine the influence of formulation variables on the micromeritic properties (drug content, particle size and shape) of the prepared microspheres and ability of microencapsulation for taste masking of the bitter taste of Tinidazole without affecting its bioavailability.

TASTE MASKING OF AZITHROMYCIN BY MICRO ENCAPSULATION were done perform successfully by solvent-emulsion evaporation method. Eight volunteers out of ten found its taste- tasteless, while two volunteers reported its tastes as oily(This may be presence of oil on the surface of microspheres).

Reports of Zeta potential determination of microspheres, SEM STUDIES, and Drug polymer compatibility are still awaited from various commercial laboratories.



Students preparing taste masking microspheres of Azithromycin