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Oral Dissolving Film (ODF) formulation of Gonorrhea microparticulate vaccine

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Introduction: Gonorrhea is one of the most common sexually transmitted disease, caused by Gram negative diplococcus bacteria, Nisseria gonorrhoeae. Currently there are no vaccines for Gonorrhea. Therefore, there is an urgent need for a vaccine. An effective and patient compliant option could be a film dosage form of the vaccine for buccal or sublingual administration. administration. Film dosage forms are easy to prepare, cost effective, and patient complaint. When films are administered in buccal or sublingual area, the vaccines are absorbed systematically. The systemic route can avoid the first pass effect and can increase the bioavailability of the vaccines. The film can be designed is in multilayer forms, where the outer layer can be a protective layer which can prevent the destruction or swallowing of the vaccine. Additionally, it is possible to use vaccines in either naked or particulate form.

Method: The particle form of the Gonorrhea vaccine was prepared using a spray dryer. The physical properties of the particle were evaluated. The content analysis of the particle was conducted by western blot. The film dosage forms of these particle vaccines were prepared by solvent casting method. Films were evaluated for physical properties such as thickness, disintegration time, plasticity etc. Thickness was measured using the Mitutoyo digital caliper. The permeability of these particulate vaccines was determined by Franz cell using silicone membrane.

Biography

Nasir Uddin, Associate Professor of Pharmaceutical Sciences in the College of Pharmacy at Larkin University, Miami, Florida. He obtained a Bachelor's and Master's degree from Jahangirnagar University, Dhaka and a second Master's degree from Emory University, Atlanta, Georgia. He graduated with a Ph.D. in Pharmaceutical Sciences from Mercer University, College of Pharmacy, Atlanta, Georgia. Some of his research interests include the formulation of oral disintegrating film formulations of vaccines for infectious diseases and cancer. He has published several peer-reviewed scientific articles and had poster presentations at both regional and national scientific meetings.

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