

## Abstract of Presentation

**Note: This paper should be typed in “Times New Roman” of 12pt.**

Presentation Title(Should be no more than 20 words):

Pharmaceutical based strategies for proteins and peptides delivery: Special emphasis on interferon.

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Abstract :

Most of therapeutic proteins and peptide-based drugs are administered by the parenteral route. However, oral route would be preferred to any other route because of its high level of patient acceptance and long term compliance, which increases the therapeutic value of the drug. Designing and formulating a polypeptide drug delivery through the gastro intestinal tract has been a persistent challenge because of their unfavorable physicochemical properties, which includes enzymatic degradation, poor membrane permeability and large molecular size. The main challenge is to improve the oral bioavailability from less than 1% to at least 30-50%.

Novel drug delivery technologies, such as, engineering molecules with advanced PEGylation, pulmonary delivery, nasal delivery, and transdermal delivery, offer exciting alternatives to improve the viability of potential protein and peptide drug candidates, enhancing drug performance, and increasing patient compliance through more convenient modes of dosing and administration.

Hepatitis C is a global disease. While not every nation in the world has had adequate means to survey its population for incidence of the virus, enough statistics have been compiled to demonstrate the enormous threat posed by hepatitis C. The prevalence of hepatitis C is lowest in Northern European countries. Higher rates have been reported in Southeast Asian countries. The incidence in Japan was 1.2%. Alarming rates were reported in African nations, reaching as high as 14.5% in Egypt. These studies, when added together, suggest that over 200 million people around the world are infected with hepatitis C. Current recommendations for treatment of hepatitis C are interferon alpha (IFN $\alpha$ )-based monotherapy and combination of IFN $\alpha$ -therapy with ribavirin.

Research focuses on novel approaches to deliver interferon as modified IFN. Other approaches are pharmaceutically based approaches to develop novel sustained release injectable delivery systems such as liposomes, minipellets and nanoparticles. Alternative routes of IFN delivery may include transdermal, buccal, nasal, pulmonary and the oral route.