

Title of the issue: Infection associated Cancers, and their effective managements by using of Nanomedicines

Background:

A substantial proportion of the world's cancer burden can be attributed to the consequences of chronic infection with viruses, bacteria, and parasites. While the mechanisms by which these infections promote cancer are diverse, a common denominator is that the cancers develop in the context of chronic infection. The recognition that microbial infection can induce the initiation or promotion of tumor development allows development of strategies for reducing the global cancer burden through using of nanomedicines to reduce the burden of chronic infection. This proposal will describe some successes in this field and outline challenges for the future. Four viruses and one bacterium account for more than 90% of the global burden of cancer attributable to infection. Their relative contribution is higher in the developing than in the developed world, with figures for the overall percentage of infection-attributable cancer ranging from 15–25%. For each microorganism associated with cancer, persisting infection generally precedes cancer induction, though the incidence of persistent infection is much higher than that of the cancer. However, “hit and run” carcinogenesis, where there is no molecular trace of the initiating infection in the arising cancer, is observed following some infections in animals as well as in some stomach cancers associated with *H. pylori*, Human papillomaviruses (HPV), Hepatitis B virus (HBV), Hepatitis C virus (HCV), Epstein Barr virus (EBV). There-fore, in instances where continued persistence of infection is necessary for oncogenesis, it is probably not sufficient, while in other instances it may not even be necessary. In recent decade, nanomedicines got wider acceptance for effective management of infectious cancer. Many more from the diverse series of lipidic and polymeric nanoparticles are currently being investigated at the preclinical level intended for improving the target of active agents into the specific tumor site.

Aims & Scope:

This thematic issue presents a concise yet very focus presentation on-going research in nano-drug discovery for medication in **infective cancer**. In this issue, Up-to-date, broadly and interdisciplinary discussed reviews on nano-drug discovery will help the pharmaceutical, biomedical researchers and clinical oncologist in understanding of challenges of drug delivery and how with the nanomedicines strategy we can improve our therapy.

Description:

This issue covers the brief pathophysiology of **infective cancer**, available medications and its associated challenges in treatment. Collective accounts of various drugs acting on different molecular targets of microorganism and the role of nanomedicines in their effective targeting and patents are addressed. Moreover, newer approaches in cancer disorders therapy such as combination drug targeting, cancer vaccination along with nanomedicines are also discussed. Novel nanomedicines (such as liposomes, ethosomes, elastic liposomes, liposphere, lipid-based nanoparticles, polymeric nanoparticles, lipid polymer hybrid nanoparticles etc.) have shown their potential in improving therapeutic benefits of drugs for management by increasing their therapeutic efficacy with minimal toxicity. Nevertheless, while the results on animal models using nanomedicine-based drug targeting of microorganism in cancer via different route seem promising, lack of sufficient evidence in a clinical setup is a constraint and more clinical studies on the efficacy and safety of nanomedicines in anti-infective anticancer therapy are required.

Details about the articles

Title no: 1: Nanomedicines in effective management of Liver cancer

Title no: 2: Nanocarriers for Cervical, anal, vaginal, other cancers

Title no: 3: Polymeric based nanomedicine in Kaposi's sarcoma

Title no: 4: Nanomedicines for the treatment of Gastric cancer

Title no: 5: Vesicular based nanoscale pharmacotherapy for management of Nasopharyngeal cancer

Title no: 6: Nano-based therapy for treatment of Hodgkin's, non-Hodgkin's, Burkitt's cancer

Title no: 7: Vesicular carriers for effective treatment of Pancreatic cancer

Title no 8: Challenges and perspectives in Anti-infective nanomedicine cancer therapy

Time frame:

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1. Mahfoozur Rahman

Department of Pharmaceutical Sciences, Faculty
of Health Sciences, Sam Higginbottom Institute of Agriculture,
Technology & Sciences (SHIATS), Allahabad, India;

E-mail: mahfoozkaifi@gmail.com

Contact no: +91-8627985598

2. Sarwar Beg

UIPS, UGC Center of Advanced Studies
Panjab University, Chandigarh, India
Mob: +91-7837047544, +91-7589367750
Email: Sarwar.beg@gmail.com

3. Imran Kazmi

Principal, College of Pharmacy
Shine Abdur Razzaq Institute of Health Education and Research Centre,
Irba, Ranchi, Jharkhand, India.
Email: kazmiimran2005@gmail.com