

Title of the issue: Nanomedicine advances in topical infective and non-infective skin diseases therapy

Background:

The human skin is constantly exposed to various microbes, viruses, pollutants, UV/other radiation and other stressors that exist in day today life. Eventually, often we encountered with infectious and non-infectious skin diseases such as psoriasis, acne, vitiligo, eczema, acrodermatitis, cutaneous candidiasis, athlete's foot cutaneous leishmaniasis and rosacea, skin cancer, etc. It is well established that topical medication in skin diseases are more effective and have lesser side effects than the systemic application. Yet, physicochemical properties of drugs and skin anatomy particularly the stratum corneum are the major barrier in effective topical pharmacotherapy. Exploiting of the fact that beneath the stratum corneum and epidermis of the skin is composed lipids and lipoproteins, nanomedicines of lipophilic surface as a topical drug carriers are currently being developed and seems very promising at clinical stage. In recent decade, many liposomes, nanoemulsion gels and lipid nanoparticles have been approved for the medication of infectious and non-infectious skin conditions. Many more from the diverse series of lipidic and polymeric nanoparticles are currently being investigated at the preclinical level intended for improving the low penetration of active agents into the skin, which limits not only the topical therapy of skin disease but also transdermal therapy.

Aims & Scope:

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

Description:

This issue covers the brief pathophysiology of **topical infective and non-infective diseases**, available medications and its associated challenges in treatment. Collective accounts of various drugs acting on different molecular targets of skin biomarkers and the role of nanomedicines in their effective targeting and patents are addressed. Moreover, newer approaches in skin disorders therapy such as combination drug targeting and physical techniques of topical permeation enhancement along with nanomedicines are also discussed. Novel nanomedicines (such as liposomes, ethosomes, elastic liposomes,

liposphere, lipid based nanoparticles, polymeric nanoparticles, etc.) have shown their potential in improving therapeutic benefits of drugs for topical treatment by increasing their therapeutic efficacy with minimal toxicity. Nevertheless, while the results on animal models using nanomedicine based drug targeting of biomarkers of skin disorders 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 skin therapy are required.

Details about the articles

Title no: 1: Challenges and future perspective of Topical diseases

Title no: 2: Nanocarriers for treatment of eczema

Title no: 3: Polymeric based nanomedicine for treatment of topical infectious disorders

Title no: 4: Nanomedicines for the treatment of candidiasis

Title no: 5: Vesicular based nanoscale pharmacotherapy for treating of skin cancer

Title no: 6: Nano-based therapy for treatment of skin cancer

Title no: 7: Vesicular carriers for effective treatment of psoriasis

Title no: 8: Nanotechnological carriers for treatment of Acne

Time frame:

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