Repurposed drug against COVID-19: nanomedicine as an approach for finding new hope in old medicines
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Repurposed drug against COVID-19: nanomedicine as an approach for finding new hope in old medicines
Mohammad Zaki Ahmad1 , Javed Ahmad1 , Mohammed Aslam2 , Mohammad Ahmed Khan3 , Mohammed Yahia Alasmary4 and Basel A Abdel-Wahab5,6 1 Department of pharmaceutics, College of Pharmacy, Najran University, Najran, Saudi Arabia 2 Faculty of Pharmacy, Al Hawash Private University, Homs, Syria 3 Department of Pharmacology, School of Pharmaceutical Education and Research, Jamia Hamdard, New Delhi, India 4 Department of Internal Medicine, College of Medicine, Najran University Hospital, Najran, Saudi Arabia 5 Department of Pharmacology, College of Pharmacy, Najran University, Najran, Saudi Arabia 6 Department of Pharmacology, College of Medicine, Assiut University, Assiut, Egypt E-mail: zaki.manipal@gmail.com Keywords:COVID-19, repurposed drug, nanomedicine, targeted therapy, anti-viral, pulmonary drug delivery Abstract The coronavirus disease 2019 (COVID-19) has become a threat to global public health. It is caused by the novel severe acute respiratory syndrome coronavirus(SARS-CoV-2) and has triggered over 17 lakh causalities worldwide. Regrettably, no drug or vaccine has been validated for the treatment of COVID-19 and standard treatment for COVID-19 is currently unavailable. Most of the therapeutics moieties which were originally intended for the other disease are now being evaluated for the potential to be effective against COVID-19 (re-purpose). Nanomedicine has emerged as one of the most promising technologies in the field of drug delivery with the potential to deal with various diseases efficiently. It has addressed the limitations of traditional repurposed antiviral drugs including solubility and toxicity. It has also imparted enhanced potency and selectivity to antivirals towards viral cells. This review emphasizes the scope of repositioning of traditional therapeutic approaches, in addition to the fruitfulness of nanomedicine against COVID-19.