COVID 19 BULLETIN

News | Research | Developments

Bharat Biotech submits data to DCGI for Covaxin for children in 2-18 age group

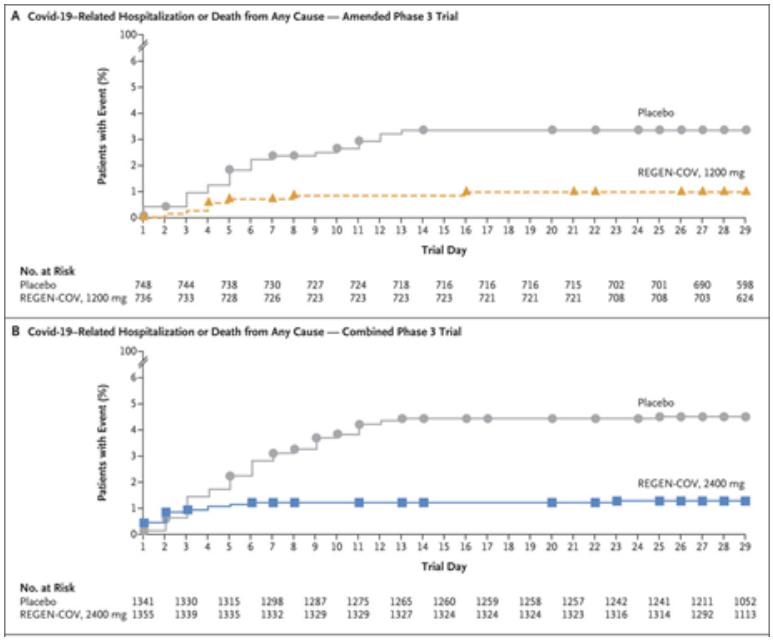
Bharat Biotech, the manufacturer of indigenously developed Covid-19 vaccine Covaxin, has submitted the trial data for children in the 2-18 years age group to the DCGI. More here

The story of how a mystifying novel coronavirus variant, Delta, has India and the globe in its grip

Early this February, it looked like India was celebrating its happiest month since March 2020. Daily new cases had troughed to 12,000 from a September peak of 92,000. More here

Covid antiviral pill can halve risk of hospitalisation

The tablet molnupiravir was given twice a day to patients recently diagnosed with the disease. More here.



REGEN-COV Antibody Combination and Outcomes in Outpatients with Covid-19

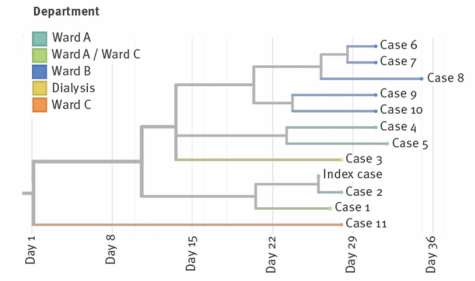
Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) causes coronavirus disease 2019 (Covid-19), and as of September 2021, it has infected more than 230 million people and led to approximately 4.7 million deaths globally.1 Although most patients with Covid-19 receive care in the outpatient setting, some have disease that progresses to severe illness leading to hospitalisation or death.2-6 Several investigational therapeutic agents, including REGEN-COV (previously known as REGN-COV2), are available under emergency use authorisation. However, there have been limited clinical data to support their wider use and no approved treatments to reduce the risk of hospitalisation or death among patients with mild to moderate COVID 19 More here

Computational prediction of the effect of amino acid changes on the binding affinity between SARS-CoV-2 spike RBD and human ACE2

SARS-CoV-2 infection proceeds through the binding of viral surface spike protein to the human ACE2 protein. The global spread of the infection has led to the emergence of fitter and more transmissible variants with increased adaptation both in human and nonhuman hosts. Molecular simulations of the binding event between the spike and ACE2 proteins offer a route to assess potential increase or decrease in infectivity by measuring the change in binding strength. We trained a neural network model that accurately maps simulated binding energies to experimental changes in binding strength upon amino acid changes in the spike protein. This computational workflow can be used to a priori assess currently circulating and prospectively future viral variants for their affinity for hACE2. The ongoing COVID-19 pandemic caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) continues to be a major global challenge to public health and has caused unprecedented losses to the global economy (1) and ecology (2).

More here

Nosocomial outbreak caused by the SARS-CoV-2 Delta variant in a highly vaccinated population, Israel, July 2021



Israel was one of the first countries to achieve a high level of full vaccination with the Comirnaty (BNT162b2 mRNA, BioNTech-Pfizer, Mainz, Germany/New York, United States (US)) vaccine against severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). From May through mid-June 2021, with more than 55% of the population fully vaccinated, new cases decreased to less than two cases per million, with no social restrictions, indicative of very high vaccine effectiveness. Article here

Durability of immune responses to the BNT162b2 mRNA vaccine

The development of the highly efficacious mRNA vaccines in less than a year since the emergence of SARS-CoV-2 represents a landmark in vaccinology. However, reports of waning vaccine efficacy, coupled with the emergence of variants of concern that are resistant to antibody neutralization, have raised concerns about the potential lack of durability of immunity to vaccination. We recently reported findings from a comprehensive analysis of innate and adaptive immune responses in 56 healthy volunteers who received two doses of the BNT162b2 vaccination. Here, we analyzed antibody responses to the homologous Wu strain as well as several variants of concern, including the emerging Mu (B.1.621) variant, and T cell responses in a subset of these volunteers at six months (day 210 post-primary vaccination) after the second dose. Our data demonstrate a substantial waning of antibody responses and T cell immunity to SARS-CoV-2 and its variants, at 6 months following the second immunization with the BNT162b2 vaccine. More here