Safety and immunogenicity of an inactivated SARS-CoV-2 vaccine, BBV152: interim results from a double-blind, randomised, multicentre, phase 2 trial, and 3-month follow-up of a double-blind, randomised phase 1 trial

Two intramuscular doses of vaccine were administered on day 0 and day 28. The primary outcome was SARS-CoV-2 wild-type neutralising antibody titres and seroconversion rates (defined as a post-vaccination titre that was at least four-fold higher than the baseline titre) at 4 weeks after the second dose (day 56), measured by use of the plaque-reduction neutralisation test (PRNT50) and the microneutralisation test (MNT50). Article here.
Herd immunity by infection is not an option

Herd immunity is expected to arise when a virus cannot spread readily, because it encounters a population that has a level of immunity that reduces the number of individuals susceptible to infection. On page 288 of this issue, Buss et al. (1) describe the extent of the largely uncontrolled severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) epidemic in Manaus, the capital of Amazonas state in Brazil. Their data show the impact on mortality rates of a largely unmitigated outbreak where even with an estimated 76% of the population being infected, herd immunity was not achieved. Manaus provides a cautionary example of unmitigated spread across a population, showing that herd immunity is likely not achieved even at high levels of infection and that it comes with unacceptably high costs. Buss et al. used data on the occurrence of SARS-CoV-2-specific antibodies (seroprevalence) in blood donors, adjusted for waning antibody responses over time, to calculate an estimated attack rate for COVID-19 of 66% in June, rising to 76% in October, in Manaus. The attack rate is the proportion of at-risk people who develop infection after exposure in a period of time. More here.

Risk of mortality in patients infected with SARS-CoV-2 variant of concern 202012/1: matched cohort study

The mortality hazard ratio associated with infection with VOC-202012/1 compared with infection with previously circulating variants was 1.64 (95% confidence interval 1.32 to 2.04) in patients who tested positive for covid-19 in the community. In this comparatively low risk group, this represents an increase in deaths from 2.5 to 4.1 per 1000 detected cases. Article here.

Attributes and predictors of long COVID

Long COVID was characterized by symptoms of fatigue, headache, dyspnea and anosmia and was more likely with increasing age and body mass index and female sex. Experiencing more than five symptoms during the first week of illness was associated with long COVID (odds ratio = 3.53 (2.76–4.50)). A simple model to distinguish between short COVID and long COVID at 7 days (total sample size, n = 2,149) showed an area under the curve of the receiver operating characteristic curve of 76%, with replication in an independent sample of 2,472 individuals who were positive for severe acute respiratory syndrome coronavirus 2. This model could be used to identify individuals at risk of long COVID for trials of prevention or treatment and to plan education and rehabilitation services. Article here.