New Research

*note, PREPRINTS have not undergone formal peer review

**COVID-19 related publications by Providence caregivers – see Digital Commons**

**Clinical Syndrome**

   [https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2778371](https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2778371)

   The incidence of outpatient VTE among symptomatic patients with positive SARS-CoV-2 test results was similar to that of patients with negative results. In parallel to recent reports, posthospital VTE incidence did not differ by SARS-CoV-2 status and was comparable with that seen in clinical trials of thromboprophylaxis.

**Epidemiology & Public Health**


   The incidence of COVID-19 exposures in shared patient rooms was low at our institution: 1.8/1,000 shared room patient-days. However, the secondary attack rate (21.6%) was comparable to that reported in household exposures. Lengthier exposures were associated with COVID-19 conversion. Hospitals should implement measures to decrease shared room exposures.

A messaging campaign recorded by several physicians of varied age, gender, and race was effective in increasing COVID-19 knowledge, information-seeking, and self-reported protective behaviors among diverse groups.

**Prognosis**


Thirty-six observational studies were identified, of which 27 were included in the meta-analysis. A total of 106 potential risk factors were tested, and the following important predictors were associated with mortality: advanced age, male sex, current smoking status, preexisting comorbidities (especially chronic kidney, respiratory, and cardio-cerebrovascular diseases), symptoms of dyspnea, complications during hospitalization, corticosteroid therapy and a severe condition. Additionally, a series of abnormal laboratory biomarkers of hematologic parameters, hepatorenal function, inflammation, coagulation, and cardiovascular injury were also associated with fatal outcome.

**Therapeutics**


In patients with mild-to-moderate COVID-19 managed without hospital admission, adding azithromycin to standard care treatment did not reduce the risk of subsequent hospital admission or death. Our findings do not support the use of azithromycin in patients with mild-to-moderate COVID-19.


No significant differences were seen between treatment groups in mortality during hospitalization. There was a marked decrease in SARS-CoV-2 load in the oropharynx during the first week overall, with similar decreases and 10-day viral loads among the remdesivir, HCQ, and SoC groups. Remdesivir and HCQ did not affect the degree of respiratory failure or inflammatory variables in plasma or serum. The lack of antiviral effect was not associated with symptom duration, level of viral load, degree of inflammation, or presence of antibodies against SARS-CoV-2 at hospital admittance. Neither remdesivir nor HCQ affected viral clearance in hospitalized patients with COVID-19.

Among critically ill patients with COVID-19, lopinavir-ritonavir, hydroxychloroquine, or combination therapy worsened outcomes compared to no antiviral therapy.


   Among residents and staff in skilled nursing and assisted living facilities, treatment during August-November 2020 with bamlanivimab monotherapy reduced the incidence of COVID-19 infection. Further research is needed to assess preventive efficacy with current patterns of viral strains with combination monoclonal antibody therapy.


   Among high-risk ambulatory patients w/ underlying medical conditions, bamlanivimab plus etesevimab led to a lower incidence of Covid-19-related hospitalization and death than did placebo and accelerated the decline in the SARS-CoV-2 viral load.

**Transmission / Infection Control**


   In this retrospective cohort study of the 2020 NBA closed campus occupational health program, recovered individuals who continued to test positive for SARS-CoV-2 following discontinuation of isolation were not infectious to others. These findings support time-based US Centers of Disease Control and Prevention recommendations for ending isolation.

**Vaccines / Immunology**


   CoronaVac has high efficacy against PCR-confirmed symptomatic COVID-19 with a good safety and tolerability profile. During a median follow-up period of 43 days, vaccine efficacy was 83.5%.

We found that severe COVID-19 infection, associated with a high mortality rate, might develop in a minority of fully-vaccinated individuals with multiple comorbidities. Our patients had a higher rate of comorbidities and immunosuppression compared to previously reported non-vaccinated hospitalized COVID-19 patients. Further characterization of this vulnerable population may help to develop guidance to augment their protection, either by continued social-distancing, or by additional active or passive vaccinations.


A single dose of mRNA vaccine reduced the risk of SARS-CoV-2 by about two-thirds in adults ≥70-years-old, with protection only minimally reduced against Alpha and Gamma variants.


In this prespecified interim analysis of a randomized clinical trial, treatment of adults with either of 2 inactivated SARS-CoV-2 vaccines significantly reduced the risk of symptomatic COVID-19, and serious adverse events were rare. Data collection for final analysis is pending.


This cohort study of US veterans found that mRNA vaccine administration was associated with a delayed but modest reduction in COVID-19 infection but an excellent reduction in COVID-19-related hospitalization or death in patients with cirrhosis.


We conclude that the mRNA-1273 vaccine can efficiently stimulate the SARS-CoV-2–specific B-cell memory that has been generated by a prime dose of ChAdOx1 nCoV-19 vaccine 9 to 12 weeks earlier and that it may provide better protection against the B.1.351 variant than a ChAdOx1 nCoV-19 boost. These data also suggest that mRNA vaccines (here in the form of mRNA-1273) may be useful for vaccination strategies in which a third dose is to be administered to persons who have previously received two doses of ChAdOx1 nCoV-19.


SARS-CoV-2 lineage P.1 might escape neutralisation by antibodies generated in response to polyclonal stimulation against previously circulating variants of SARS-CoV-2. Plasma from
individuals previously infected with SARS-CoV-2 had an 8.6 times lower neutralising capacity against the P.1 isolates. Plasma collected after a second dose of CoronaVac, neutralising capacity against P.1 isolates was significantly decreased compared with that against the lineage B isolate. Continuous genomic surveillance of SARS-CoV-2 combined with antibody neutralisation assays could help to guide national immunisation programmes.

Women & Children

The cohort included 7530 vaccinated and 7530 matched unvaccinated women, 46% and 33% in the second and third trimester, respectively, with a mean age of 31.1 years. BNT162b2 mRNA vaccination compared with no vaccination was associated with a significantly lower risk of SARS-CoV-2 infection. Interpretation of study findings is limited by the observational design.

Human milk of lactating individuals after COVID-19 infection contains anti-SARS-CoV-2-specific IgG, IgM and/or IgA, even after mild or asymptomatic infection. Current evidence demonstrates that these antibodies can neutralise SARS-CoV-2 virus in vitro. Holder pasteurisation deactivates SARS-CoV-2-specific IgA, while high-pressure pasteurisation preserves the SARS-CoV-2-specific IgA function.

GUIDELINES & CONSENSUS STATEMENTS


FDA / CDC / NIH / WHO Updates
FDA - announces revisions to the vaccine recipient and vaccination provider fact sheets for the Johnson & Johnson COVID-19 Vaccine to include information pertaining to an observed increased risk of Guillain-Barré Syndrome.

Commentary / Press Releases


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