Providence

COVID-19 Resource Desk

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Prepared by System Library Services Retraction Watch

New Research

*note, **PREPRINTS** have not undergone formal peer review

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

Clinical Syndrome

1. **Clinical severity of Omicron SARS-CoV-2 variant relative to Delta in British Columbia, Canada: A retrospective analysis of whole genome sequenced cases.** Harrigan SP et al. *Clin Infect Dis.* 2022 Aug 30:ciac705. doi: 10.1093/cid/ciac705. https://academic.oup.com/cid/advance-article/doi/10.1093/cid/ciac705/6679248

RESULTS: The cohort was composed of 13,128 individuals (7,729 Omicron and 5,399 Delta). There were 419 COVID-19 hospitalizations, with 118 (22%) among people diagnosed with Omicron (crude rate = 1.5% Omicron, 5.6% Delta). In multivariable IPTW analysis, Omicron was associated with a 50% lower risk of hospitalization compared to Delta, a 73% lower risk of ICU admission, and a 5 days shorter hospital stay on average. Our analysis supports findings from other studies demonstrating lower risk of severe outcomes in Omicron-infected individuals relative to Delta.

Healthcare Delivery & Healthcare Workers

2. **Administration of Anti-SARS-CoV-2 Monoclonal Antibodies After US Food and Drug Administration Deauthorization.** Anderson TS, et al. *JAMA Netw Open*. 2022 Aug 1;5(8):e2228997. doi: 10.1001/jamanetworkopen.2022.28997.

https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2795735

According to the results of this serial cross-sectional study, hospitals and health systems administered more than 158 000 anti–SARS-CoV-2 mAb doses in early 2022, despite FDA deauthorization because of a lack of efficacy against the Omicron variant. Medicare payments for mAb administration range from $450 to $750 per dose, indicating that spending on these deauthorized treatments likely exceeds $71 million. Our findings suggest that the use of deauthorized mAb products was widespread, even though patients had a minimal likelihood of benefit. Whether deauthorized treatments will be covered by payers and whether the FDA will take regulatory action against entities violating its guidance remains unknown. The continued use of deauthorized anti–SARS-CoV-2 mAb treatments may reflect conflicting state government guidance, lack of hospital awareness of deauthorization, or other factors. Although the FDA announcements clearly stated that these mAbs were no longer authorized for use, the agency did not fully revoke their emergency use authorizations because of the possibility that future COVID-19 variants could retain susceptibility, which could have led to misinterpretation.

Prognosis

3. **The Association of Baseline Plasma SARS-CoV-2 Nucleocapsid Antigen Level and Outcomes in Patients Hospitalized With COVID-19.** ACTIV-3/TICO Study Group*. *Ann Intern Med*. 2022 Aug 30. doi: 10.7326/M22-0924. https://www.acpjournals.org/doi/10.7326/M22-0924

Elevated plasma antigen is highly associated with both severity of pulmonary illness and clinically important patient outcomes. Multiple clinical and viral factors are associated with plasma antigen level at presentation. These data support a potential role of ongoing viral replication in the pathogenesis of SARS-CoV-2 in hospitalized patients.

Survivorship & Rehabilitation

4. **Persistence, prevalence, and polymorphism of sequelae after COVID-19 in unvaccinated, young adults of the Swiss Armed Forces: a longitudinal, cohort study (LoCoMo).** Deuel JW, et al. *Lancet Infect Dis.* 2022 Aug 25:S1473-3099(22)00449-2. doi: 10.1016/S1473-3099(22)00449-2. https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(22)00449-2/fulltext

Young, previously healthy, individuals largely recover from SARS-CoV-2 infection. However, the constellation of higher BMI, dyslipidaemia, and lower physical endurance 180 days after COVID-19 is suggestive of a higher risk of developing metabolic disorders and possible cardiovascular complications. These findings will guide future investigations and follow-up management.

Therapeutics

5. **Impact of the use of oral antiviral agents on the risk of hospitalization in community COVID-19 patients.** Yip TCF et al. *Clin Infect Dis.* 2022 Aug 29:ciac687. doi: 10.1093/cid/ciac687. https://academic.oup.com/cid/advance-article/doi/10.1093/cid/ciac687/6678124

Use of nirmatrelvir/ritonavir but not molnupiravir was associated with a reduced risk of hospitalization in real-world non-hospitalized COVID-19 patients.

6. **The effect of tixagevimab-cilgavimab on clinical outcomes in patients with COVID-19: A systematic review with meta-analysis.** Wang Y, et al. *J Infect.* 2022 Aug 25:S0163-4453(22)00506-0. doi: 10.1016/j.jinf.2022.08.021.

https://www.journalofinfection.com/article/S0163-4453(22)00506-0/fulltext

Our meta-analysis showed that the overall mortality in the tixagevimab-cilgavimab treated group was significantly lower than that in the control group. Furthermore, tixagevimab-cilgavimab treatment was not associated with the development of serious adevents in patients. In addition, the protection against COVID-19 was significantly improved in the tixagevimab-cilgavimab group compared with the control group. Hence,the results provide the evidence that treatment with tixagevimab-cilgavimab in COVID-19 patients had a significant benefit in terms of mortality and SARS-COVID-2 infection.

7. **Home as the new frontier for the treatment of COVID-19: the case for anti-inflammatory agents.** Perico N, et al. *Lancet Infect Dis*. 2022 Aug 25:S1473-3099(22)00433-9. doi:10.1016/S1473-3099(22)00433-9.

https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(22)00433-9/fulltext

COVID-19, caused by SARS-CoV-2, is characterised by a broad spectrum of symptom severity that requires varying amounts of care according to the different stages of the disease. Intervening at the onset of mild to moderate COVID-19 symptoms in the outpatient setting would provide the opportunity to prevent progression to a more severe illness and long-term complications. As early disease symptoms variably reflect an underlying excessive inflammatory response to the viral infection, the use of anti-inflammatory drugs, especially non-steroidal anti-inflammatory drugs (NSAIDs), in the initial outpatient stage of COVID-19 seems to be a valuable therapeutic strategy. A few observational studies have tested NSAIDs (especially relatively selective COX-2 inhibitors), often as part of multipharmacological protocols, for early outpatient treatment of COVID-19. The findings from these studies are promising and point to a crucial role of NSAIDs for the at-home management of people with initial COVID-19 symptoms.

8. **Real-world effectiveness of early molnupiravir or nirmatrelvir-ritonavir in hospitalised patients with COVID-19 without supplemental oxygen requirement on admission during Hong Kong's omicron BA.2 wave: a retrospective cohort study.** Wong CKH, et al. *Lancet Infect Dis*. 2022 Aug 24:S1473-3099(22)00507-2. doi: 10.1016/S1473-3099(22)00507-2. https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(22)00507-2/fulltext

During a wave of SARS-CoV-2 omicron BA.2, initiation of novel oral antiviral treatments in hospitalised patients not requiring oxygen therapy on admission showed substantial clinical benefit. Our findings support the early use of oral antivirals in this population of patients.

9. **Anticoagulation and Antiplatelet Therapy for Prevention of Venous and Arterial Thrombotic Events in Critically Ill Patients with COVID-19: COVID-PACT.** Bohula EA et al. *Circulation.* 2022 Aug 29. doi: 10.1161/CIRCULATIONAHA.122.061533. Online ahead of print. https://www.ahajournals.org/doi/10.1161/CIRCULATIONAHA.122.061533

In critically-ill patients with COVID-19, full-dose anticoagulation, but not clopidogrel, reduced thrombotic complications with an increase in bleeding, driven primarily by transfusions in hemodynamically stable patients, and no apparent excess in mortality.

10. **The Use of IV Vasoactive Intestinal Peptide (Aviptadil) in Patients with Critical COVID-19 Respiratory Failure: Results of a 60-Day Randomized Controlled Trial.** Youssef JG et al. *Crit Care Med.* 2022 Aug 31. doi: 10.1097/CCM.0000000000005660. https://journals.lww.com/ccmjournal/Fulltext/9900/The_Use_of_IV_Vasoactive_Intestinal_Peptide.40.aspx

The primary end point did not reach statistical significance, indicating that there was no difference between Aviptadil versus placebo. However, Aviptadil improves the likelihood of survival from respiratory failure at day 60 in critical COVID-19 across all sites of care. Given the absence of drug-related serious adverse events and acceptable safety profile, we believe the benefit versus risk for the use of Aviptadil is favorable for patient treatment.

Vaccines / Immunology

11. **Lung epithelial and myeloid innate immunity in influenza-associated or COVID-19-associated pulmonary aspergillosis: an observational study.** Feys S et al. *Lancet Respir Med.* 2022 Aug

24:S2213-2600(22)00259-4. doi: 10.1016/S2213-2600(22)00259-4.
https://www.thelancet.com/journals/lanres/article/PIIS2213-2600(22)00259-4/fulltext
Our results reveal a three-level breach in antifungal immunity in IAPA and CAPA, affecting the integrity of the epithelial barrier, the capacity to phagocytise and kill Aspergillus spores, and the ability to destroy Aspergillus hyphae, which is mainly mediated by neutrophils. The potential of adjuvant IFNγ in the treatment of IAPA and CAPA should be investigated.

12. **Analysis of Neutralizing Antibody Levels in Children and Adolescents Up to 16 Months After SARS-CoV-2 Infection.** Yung CF, et al. *JAMA Pediatr*. 2022 Aug 29. doi: 10.1001/jamapediatrics.2022.3072.
https://jamanetwork.com/journals/jamapediatrics/fullarticle/2795690
Epidemiologic data indicate that SARS-CoV-2 infection in children is usually mild, which contrast with high rates of morbidity and mortality in older adults. Data on the strength and durability of antibodies generated after SARS-CoV-2 infection in children remain limited. Such data are critical in understanding disease severity, identifying risk of reinfection, and establishing herd immunity and vaccination policy. In this study, we analyzed the dynamics of neutralizing antibodies in a cohort of children and adolescents after SARS-CoV-2 infection. The study period covered the emergence of the original SARS-CoV-2 Wuhan strain up to and including the Delta variant.

Women & Children

13. **Persistence of SARS-CoV-2 omicron variant in children and utility of rapid antigen testing as an indicator of culturable virus.** Lohse ZM et al. *Clin Infect Dis*. 2022 Aug 27:ciac693. doi: 10.1093/cid/ciac693.
https://academic.oup.com/cid/advance-article/doi/10.1093/cid/ciac693/6677545
We screened 65 longitudinally-collected nasal swab samples from 31 children aged 0-16 years who were positive for SARS-CoV-2 omicron BA.1. By day 7 after onset of symptoms 48% of children remained positive by rapid antigen test. In a sample subset we found 100% correlation between antigen test results and virus culture.

14. **Concordance of SARS-CoV-2 Results in Self-collected Nasal Swabs vs Swabs Collected by Health Care Workers in Children and Adolescents.** Waggoner JJ et al. *JAMA.* 2022 Aug 26. doi: 10.1001/jama.2022.14877.
https://jamanetwork.com/journals/jama/fullarticle/2795837
After hearing and seeing simple instructional materials, children and adolescents aged 4 to 14 years self-collected nasal swabs that closely agreed on SARS-CoV-2 detection with swabs collected by health care workers.

GUIDELINES & CONSENSUS STATEMENTS

National Research Action Plan on Long COVID

FDA / CDC / NIH / WHO Updates

CDC / ACIP - Updates on COVID-19 Vaccine Effectiveness during Omicron

CDC / ACIP - Booster Doses of Moderna COVID-19 Vaccines in Adults, Adolescents & Children

FDA Authorizes Moderna, Pfizer-BioNTech Bivalent COVID-19 Vaccines for Use as a Booster Dose.

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