17 March 2021

BRIEF19

A daily review of covid-19 research and policy

RESEARCH BRIEFING

Vaccination appears to be safe for covid-19 long-haulers.

SARS-CoV-2 vaccines have been heralded as the best path to achieving herd immunity and ending the covid-19 pandemic. However, the appearance of "long-haulers" or Post-Acute Sequelae of SARS-CoV-2 Infection (PASC)—that is, patients with persistent symptoms following infection lasting weeks to months and affecting various body systems—has threatened to extend things. Many have wondered what impact the new coronavirus vaccines might have on PASC patients and their symptoms. A preprint released last week on *medRxiv* from scientists in the United Kingdom looked at this previously unresearched topic.

Previously hospitalized covid-19 patients being followed in clinics for eight months were enrolled into the present study. These individuals received the either the Pfizer/BioNtech or Oxford/AstraZeneca (AZ) vaccine and were matched against non-vaccinated controls at a rate of two to one. A reassessment was performed one month after vaccination; in all there were forty-four vaccinated patients and 22 non-vaccinated subjects included in the analysis. The rates of persistent symptoms were extremely high in both groups; fatigue was most common PASC symptom (82 percent of subjects), followed by fatigue (61 percent), breathlessness (50 percent) and insomnia (38 percent). Quality of life and mental well-being were also assessed.

Following vaccination almost two-thirds of patients reported typical short-lived post-vaccination complaints such as fever, body aches, and headaches. Some degree of improvement in PASC symptoms was documented in the vaccinated group as compared to unvaccinated controls; among vaccinated persons, 5.6 percent reported worsening symptoms versus 14.2 percent among unvaccinated controls. In addition, an increase in symptom resolution was observed among the vaccinated (23.2 percent) as compared to unvaccinated individuals (15.4 percent). When comparing the pre- and post-vaccination periods, no effect was noted with respect to worsening of mental well-being or quality life. Also, the brand of vaccine did not affect the results despite one of the studied vaccines being a mRNA (Pfizer) product, and the other being an adenovirus vector vaccine (AZ).

In sum, this was a small but interesting study demonstrates the need for studies with larger numbers of test subjects in order to confirm what is likely the safety of vaccination in patients with persistent post-infection systems, More than that, we await larger datasets that confirm or refute what in this study appeared to be the vaccines' beneficial effects to people suffering from long-standing post-acute covid-19 symptoms.

—Christopher Sampson, MD, FACEP

Oxford/AstraZeneca fails to prevent mild to moderate covid-19 from B.1.351 ("South Africa") variant.

The rise of variants of SARS-CoV with alterations at the key spike protein, notably the "South Africa" variant (B.1.351), has posed potential challenges to the covid-19 vaccines. Many have expressed worry regarding the possibility of reduced efficacy of the currently available coronavirus vaccines, which were developed to combat the "wild type" virus that became pandemic one year ago. With numerous variants emerging since, scientists have begun to assess whether the game-changing vaccines being rolled out globally will still work against them.

In a randomized trial published in the *New England Journal of Medicine* today, researchers tested the Oxford/AstraZeneca viral vector vaccine in participants ages 18-65 years

old in South Africa. Participants either received two "standard dose" vaccines or saline injections as placebo 28 days apart.

Among those that received the vaccine, 2.5 percent were diagnosed with mild-to-moderate covid-19 compared with 3.2 percent among those who received the placebo. Nearly all (93 percent) of those diagnosed with covid-19 were infected with the B.1.351 SARS-CoV-2 variant. Overall vaccine efficacy was quite low (at 22 percent) and even lower amongst those with confirmed cases of the B.1.351 variant (at 10.4 percent).

Yes, the results of this trial are disappointing. We would like to see good efficacy of the vaccine in protecting people from any degree of covid-19, asymptomatic or otherwise. However, we suspect that some headlines reporting this study to the mainstream media will present the findings as more doomsday than is owed. The results from this trial do not necessarily imply the Oxford/AstraZeneca vaccine is "useless" against this variant. While it is possible that this vaccine has reduced efficacy against more serious or critical covid-19, we simply do not know that from these data; there were no cases of severe covid-19 in either the placebo or vaccine group in the present trial. In fact, as the recent larger Johnson & Johnson trial in South Africa showed (which included many patients infected with the B.1.351 variant), at least one adenovirus vector vaccine constructed similarly to the Oxford/AstraZeneca vaccine has been shown to have good efficacy against the B.1.351 variant in achieving the overarching goal of reducing the number of people who get severely or critically with covid-19.

In sum, we now have data to suggest that adenovirus vaccines may not protect against mild and moderate covid-19 (Oxford/AstraZeneca) and data to suggest that this type of vaccine may yet still protect against serious and critical illness (Johnson and Johnson). If these data were to hold up, the pandemic would indeed eventually end even in places that only have access to these adenovirus options. We need to remember that the short-term goal of getting out of this pandemic is not eliminating mild and moderate disease; those cases we can live with. The way out of the pandemic is by eliminating the high number of hospitalizations and deaths; the high prevalence of such widespread and severe disease we can't continue to abide.

—Lauren Westafer, DO MPH

POLICY BRIEFING

Trusted sources needed for new pools of vaccine hesitancy.

As coronavirus vaccines become more widely available, a disturbing trend of vaccine hesitancy has followed in its wake. *Brief19* has previously reported on the general demographics of those demonstrating uncertainty early in the vaccine cycle, as well as historically-motivated mistrust in certain communities further inflamed by online misinformation campaigns. Now new data shows that nearly half of prison guards and self-identified Republicans polled said they would wait to get the vaccine.

To combat this, three former US Presidents and First Ladies got their vaccinations publicly and put together a PSA to encourage everyone eligible to get inoculated as well; the only notable absences were the Trumps, who received their shots, privately, while still in office, it was recently reported.

Despite his removal from major social media platforms, former President Trump still wields an enormous influence over the Republican base, and calls are growing for him to use this power to combat hesitancy. He uttered one sentence of encouragement during his Conservative Political Action Conference (CPAC) speech this month. Beyond that, he has mainly focused on taking credit for the vaccine rollout—which has accelerated on President Biden's watch—rather than promoting vaccine adoption. However, yesterday, Trump did speak out in favor of vaccinations, speaking to a Fox News audience. This is his most direct appeal to the public on

this topic to date and it comes at a time when the effects of vaccination are starting to become more noticeable; the number of active US hospitalizations has plummeted from a peak on January 6th. Today, levels are around one-third of the early January rate. *Various*.

—Brief19 Policy Team

Kimi Chernoby, MD, JD, Policy Section Founder, Joshua Niforatos, MD Research Section Editor, Frederick Milgrim, MD, Editor-at-Large, Joshua Lesko, MD Lead Policy Analysist, Barb Cunningham, Copy-editor, Benjy Renton, Thread-of-the-Week, Anna Fang, Week-in-Review. Megan Davis, social media. Kane Elfman PhD, Publishing and Design. Jeremy Samuel Faust MD MS, Editor-in-Chief. http://www.brief19.com/ Twitter: @brief_19 submissions@brief19.com. Brief19 is a daily executive summary of covid-19-related medical research, news, and public policy. It was founded and created by frontline emergency medicine physicians with expertise in medical research critique, health and public policy.