CDC/IDSA COVID-19 Clinician Call

Update on Breakthrough Infections

June 5, 2021

Q&A

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1. **Any evidence and comments on myocarditis in adolescents after Pfizer vaccination in Israel? Many thanks!**

   Tune in to this call next week, which will focus on what we know about COVID-19 vaccination and myocarditis! (Visser, Susanna)

2. **Last week, the CDC released a report in which about a quarter of cases where asymptomatic. CDC stopped reporting and tracking mild cases in late April. This will skew data. Appreciate making sense of this.**

   CDC continues to collect data on all COVID-19 infections, symptomatic and asymptomatic. CDC developed a national COVID-19 vaccine breakthrough database where state health departments can enter, store, and manage data for cases in their jurisdiction. As of May 1, 2021, CDC transitioned from monitoring all reported vaccine breakthrough cases in this database to focus on identifying and investigating only hospitalized or fatal cases. Some health departments may continue to report all vaccine breakthrough cases; however, CDC will focus its monitoring on reported hospitalized and fatal cases. Hospitalized and fatal cases will be updated regularly on this website: https://www.cdc.gov/vaccines/covid-19/health-departments/breakthrough-cases.html. (Koumans, Emilia)

3. **As universities/ campuses plan to come back to campus for the next upcoming academic year, what are the aspects of long COVID would they need to keep in mind/ educated about? Any specific counseling/ aspects to touch upon? As far as long covid/ post covid, how can we support student needs in their academic journeys as they come back to university campus - student population is generally both traditionally aged students and non-traditional adult students. Any insight will be much appreciated. Thank you!**

   CDC updated the IHE guidance yesterday. This may be helpful. CDC is also working on guidance for post-COVID conditions. Stay tuned for that guidance in the coming weeks. https://www.cdc.gov/coronavirus/2019-ncov/community/colleges-universities/considerations.html (Visser, Susanna)

4. **Pt on steroids x 1 month for IBD asked me about when to get 2nd dose after end of steroids. Appreciate comments.**

   Would follow the vaccine schedule and not delay due to steroids.

5. **@Dr Dowel, what do we know about Delta (the B.1.67.2) and the effectiveness of the mRNA vaccines and the vector-virus vaccines?**

   A recent preprint from the UK by Lopez Bernal et al. found epidemiologic evidence that 2 doses of BNT162b2 (Pfizer) or of ChAdOx1 (Oxford/AZ) had only a modest difference in vaccine effectiveness when comparing B.1.617.2 with B.1.1.7. However, after only one dose of either vaccine, differences in effectiveness against B.1.617.2 were more marked. Because of this finding, the UK has placed a greater emphasis on making sure vulnerable individuals receive a 2nd dose as soon as possible (following the recommended interval). (Dowell, Deborah)

6. **What about efficacy vs. Brazil variant? Also are there any studies in progress with HCP's length of protection from vaccine since a lot of us got vaccinated in December 2020- booster info available yet?**

   There are limited epidemiologic data available to date on vaccine effectiveness against P.1. However, sera from mRNA COVID-19 vaccine (both Pfizer-BioNTech and Moderna) recipients have demonstrated reductions in antibody neutralization activity against P.1 as well as against B.1.351. (Dowell, Deborah)

7. **How about the variant from India? Do we have data about efficacy?**

   See answer to similar question 6 (also from 3:13 pm) about B.1.617.2 (Dowell, Deborah)

8. **Any insight on the B.1.617 variant (India) as far as vaccine effectiveness?**

   See answer to similar question 6 from Aileen Marty at 3:13pm (Dowell, Deborah)

9. **What is the most current information about the prevalence of various variants in the U.S? Any numbers would be valuable.**

   You can find this information on CDC's variant page: https://covid.cdc.gov/covid-data-tracker/#variant-proportions (Visser, Susanna)

10. **The nomenclature for the variants have recently changed. The "typical" variant in US is alpha but what is the other?**

    The WHO classifications have been added to CDC's variant website and can be found in the table, here: https://www.cdc.gov/coronavirus/2019-ncov/variants/variant-info.html (Visser, Susanna)

11. **Is Dr. Koumanis citing current CDC published data? Those don't include all breakthrough cases.**

    CDC continues to collect data on all COVID-19 infections, symptomatic and asymptomatic. CDC developed a national COVID-19 vaccine breakthrough database where state health departments can enter, store, and manage data for cases in their jurisdiction. As of May 1, 2021, CDC transitioned from monitoring all reported vaccine breakthrough cases in this database to focus on identifying and investigating only hospitalized or fatal cases. Some health departments may continue to report all vaccine breakthrough cases; however, CDC will focus its monitoring on reported hospitalized and fatal

cases. Hospitalized and fatal cases will be updated regularly on this website: https://www.cdc.gov/vaccines/covid-19/health-departments/breakthrough-cases.htm.

CDC will continue to conduct vaccine effectiveness studies that will include data on breakthrough cases with mild or asymptomatic infection in healthcare and essential workers, people over 65, and people in long-term care facilities. (Koumans, Emilia)

12. **Can you please repeat the statistics from Dr Kouman's that was very hard to follow without slides.**

    - Despite the high level of vaccine efficacy, a small percentage of fully vaccinated persons will develop infections with SARS-CoV-2
    - Since Jan 2021, CDC has been working with state and territorial health departments to investigate and characterize SARS-CoV-2 infections among persons who are fully vaccinated
    - For this surveillance, a vaccine breakthrough infection is defined as the detection of SARS-CoV-2 RNA or antigen in a respiratory specimen collected from a person ≥14 days after receipt of all recommended doses of an FDA-authorized COVID-19 vaccine. State health departments voluntarily report vaccine breakthrough infections to CDC.
    - As of April 30, 2021, a total of 10,262 SARS-CoV-2 vaccine breakthrough infections had been reported from 46 U.S. states and territories. Among these cases, 6,446 (63%) occurred in females, and the median patient age was 58 years. Based on preliminary data, 2,725 (27%) vaccine breakthrough infections were asymptomatic, 995 (10%) patients were known to be hospitalized (Koumans, Emilia)

13. **What is the denominator of vaccines for the 10262 breakthrough infections?**

    As of April 30, 2021, 250.5 M doses had been administered. (Koumans, Emilia)

14. **Is there a recommendation to revaccinate individuals with breakthrough infection with a different COVID-19 vaccine?**

    No evidence yet. One can assume that after acquiring the infection, they should develop natural immunity as well. (Shweta Anjan)

15. **Will the CDC be publishing the data on their website on all breakthrough cases instead of only hospitalizations/deaths? Or where can clinicians see this data?**

    Some health departments may continue to report all vaccine breakthrough cases; however, CDC will focus its monitoring on reported hospitalized and fatal cases. Hospitalized and fatal cases will be updated regularly on this website: https://www.cdc.gov/vaccines/covid-19/health-departments/breakthrough-cases.html. (Koumans, Emilia)

16. **Are there data on how a modified vaccination schedule (such as longer period between dose 1 and 2) effects efficacy of vaccination?**

    No data yet. (Shweta Anjan)

17. **is procalcitonin used to determine secondary bacterial infection?**

    When suspected or in doubt. (Shweta Anjan)

18. **Are the Miami data published?**

    Unpublished - has been submitted for publication (Abbo, Lilian M.)

19. **Any data on monoclonal Ab efficacy in breakthrough infections?**

    None that I am aware of. Patients with breakthrough infections receiving MAB did recover faster with no complications. (Shweta Anjan)

20. **I think the cycle threshold is very helpful to differentiate chronic shedders from reinfections (with or without vaccines) . Any thoughts if CT value is going to be incorporated in the recommendations regarding how to manage these patients?**

    Yes we are using Ct values in the context of clinical presentations and for infection control isolations/ bed placement. However, be aware that an a very recent acute infection have seen high Cts and as symptoms progress the Ct lowers (more infectious). (Abbo, Lilian M.)

21. **Great presentations and discussion. Among the 2,957 transplants and 18 breakthrough cases, were there any heart transplants?**

    Thank you. No heart transplant patients with breakthrough infection. (Shweta Anjan)

22. **Dr. Anjan, based on your study, can you say anything about vaccine efficacy? Or did you get so many SOT patients vaccinated that you didn't have enough unvaccinated ones to look at?**

    Hello! Yes, we have been aggressive with ensuring our SOT patients get vaccinated. the breakthrough cases are few in relation. We might be able to avoid breakthroughs by ensuring families and caregivers of these patients are vaccinated. (Shweta Anjan)

23. **In the immunocompetent pts who were vaccinated and then developed covid 19 infection do we have data on their antibody levels?**

    Yes. 78% had detectable antibody levels. We use the Orthi Clinical diagnostic test which provides a total Ab and IgG.

24. **In the breakthrough case when patients had severe disease and esp in patient who died can you share the additional risk factors (other than organ donor transplant)- such as age, gender, ethnicity?**

    >70 years, cohort has been predominantly Hispanic ethnicity. But I believe the biggest risk factor remains immunocompromised/transplant status. (Shweta Anjan)

25. **How high was the steroid dose given? is that pulse steroid?**

    Most received dexamethasone 6mg/d for 6 days, few received pulse dose steroids especially if they were receiving therapeutic plasma exchange.