AST/IDSA Webinar

COVID-19 Vaccine in Transplant & Immunocompromised Populations

March 25, 2021

Q&A

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I received my second Pfizer shot on Feb 2. Out of curiosity, I had an antibody test performed at an urgent care clinic; I tested negative. I've never had covid; should I be concerned that the vaccine had no impact on me? I'm a two-year post liver transplant patient. Thanks.

Thanks for your question. As you will hear from the other panelists, there are other forms of protection in terms of T-cell immunity and memory B cells, that the antibody test does not address. So, we can't really know what degree of protection someone with a transplant does or does not have after the vaccine, as yet. We and others are actively trying to learn more about what the antibody tests mean, and what the degree of protection is that these imply. So, we are encouraging all transplant recipients to maintain safety measures until we learn more.

I am a lung transplant recipient (as well as a palliative physician), four years out. I received the Pfizer vaccine in December and January, and my antibody tests (through the Johns Hopkins study) have been consistently negative. Would there be a rationale for pursuing the J&J vaccine? I am on tacrolimus, azathioprine, and prednisone. Thanks!

That is a great question and one that we all want to know the answer to. We hope that there will be an opportunity to study a 3rd dose of a different vaccine in transplant recipients who have not developed antibody responses, but as of yet we don't know. We have also heard of individuals who developed responses later in time, so we thank you very much for participating in the study, but your later antibody titers will also be important to see if you might have a delayed positive response.

For patients who get the second dose <2 weeks prior to transplant, would you give a third dose 1-3 months after transplant?

That is a great question. It's something that we would all like to study, but also will be affected by vaccine supply and regulatory issues.

Do you think there is a role for giving monoclonal antibodies post-transplant to provide passive immunity until patients are able to mount an immune response to the vaccine (we know this is not an EUA approved indication)?

I would love to see that study done, both in SOT recipients and BMT and severely B-cell depleted patients such as those with CLL, lymphoma, myeloma etc. Some centers are designing protocols along those lines, and we hope to learn more as these start to provide data.

Any studies re: bone marrow transplant patients? If so, what are the outcomes/recommendations for these patients?

There are ongoing studies in BMT, but I haven't seen any data yet.

What were results after second vaccine shot? (In paper submitted but not discussed).

Thanks for your question. Unfortunately, I'm not able to give those numbers yet, but we hope they will be published soon so we can share them with you. We are encouraging people not to draw any firm conclusions yet from the first dose data.

What is the rate of positive Ab tests using these assays after 1 dose of mRNA vaccine in non-transplant recipients?

Definitely higher than in transplant but depends on the antibody assay that's used.

Could you comment on the utility of vaccinating patients with previously reported COVID infections? Is the vaccine supposed to be better at creating a response than SARS-CoV-2 itself? Thanks!

I think the drive here is to do this, for sure. Given the reduced responsiveness, we should consider this a must. Even if the actual infection sort of counts as a "third dose," I don't know of any safety reasons why not. We should be encouraging this.

If the response rates are not as great in the SOT population. Should there be different guidelines for exposure and quarantine compared to the general population?

That is a great question. We have been telling our immunocompromised patients (unfortunately it's disappointing) to continue to maintain all safety measures, whether vaccinated or not, even as the general population begins to travel or to attend get-togethers if they are vaccinated. We hope that we will learn more in the next few months that will tell us whether and when our transplant recipients will be able to relax their restrictions.

Dr. Avery: Are you planning to look at mucosal antibody levels; a better correlate of immunity than serology?

That is a great question, Dr. Mossad! Our immunologists are looking at a variety of different ways of measuring responses, but I'm not sure if mucosal antibody levels are among these. It would be of interest, certainly.

What is the level of lymphocytes and IgG prior to vaccine acceptable to go forward with vaccination?

That is also something that needs to be further defined, and a great question as we need to understand better which groups of patients have a better seroresponse than others. In order to do our study in a streamlined way in a large number of patients, we focused on antibody testing, but it would certainly be interesting to know total IgG levels and absolute lymphocyte counts in relation to response.

How might we think about a chance to re-design these early studies in adult for when we start having the opportunity to vaccinate pediatric SOTs?

Excellent question, Sue. This is certainly being considered and we are all trying to learn from the limitations identified in prior adult studies.

Is it possible that the mRNA response will be different for adenovirus based?

Absolutely, it's a great question and we hope to learn more as our patients start to get the J and J vaccine or others that may be approved as we go along. We also do not know if patients who have not had a seroresponse would benefit from a different type of vaccine; certainly, we would want that to be rigorously studied.

Is there a safety concern about adenovirus-based vaccines (even though it is replication incompetent) in immunocompromised hosts?

There is not a specific safety concern. as you stated, the vaccine includes a replication-deficient viral vector.

I'm not concerned. These vaccines are replication deficient. Some believe that Ad vectors may work better than mRNA in immunocompromised since they don't have prior immunity to adenoviruses.

There are situations in the pre-transplant setting that require urgent transplantation (within 1-2 weeks), would JJ be preferred in this situation? Also, covid 19 vaccination, for me, has been the most important vaccination to give prior to all others in the pre transplant setting.

I think that IS exactly the time when access to the J&J vaccine would be preferred - we have tried the same, but just haven't had access to that vaccine as much yet.

I have a BMT patient presented with graft, liver and kidney failure, 2 weeks post first dose of Moderna vaccine... already improving. We can't prove causation for sure, but my question, when to reconsider the second dose? Thank you.

That is a very challenging situation and I'm sorry to hear that. We have not seen any such situations in SOT recipients, but there could be unusual side effects that have not yet been described.

Great presentations to all! We have seen at least 2 patients fully vaccinated with severe COVID. The role of monoclonals in these scenarios could be lifesaving.

Thanks, Lilian, for that excellent comment.

Absolutely! That is a very important point. We hope that in future we will have the expanded ability to use monoclonals outside of current EUA criteria and agree it would be great to study this.

Whenever you use monoclonal ab against covid you have to delay the vaccine x 90 days?

Absolutely! Thank you for the reminder.