Discussion

Presenter: Dr Usman Ahmad

Dr Christine Lau *(Baltimore, Md)*. I'd like to congratulate you and your colleagues on an outstanding presentation. And I appreciate you giving me your paper and your slides to review ahead of time. This is obviously an important and timely topic, given the changing landscape of lung transplantation. You and your colleagues are clearly on the forefront of this, given you have a decade of experience already.

I can tell you, at The University of Virginia we're still grappling with how to accommodate and work up these urgent listings. I do have a few questions. Do you think that more centers should offer urgent listing of transplants, or do you feel that centers should be identified that can handle these high-resource patients, and if so, how do you see this playing out?

Dr Usman Ahmad *(Cleveland, Ohio)*. Great question! And I'm going to refer back to a paper written by Dr Lau and colleagues that talks about how the Centers for Medicare & Medicaid Services evaluates and penalizes transplant centers with high center mortality! The bottom line is that it comes down to the center's outcomes, and every center has to look at its own outcomes and decide what risk it is willing to take. It's hard to say that we're going to come up with the generalizable statement based on these patients to take care of these patients.

Dr Lau. Another thing that we found was as we did these urgent workups and listed these patients they would continue to deteriorate—I know you've alluded to it—it's difficult to tell which ones to list and which ones to keep listed, but when you urgently list them do you have a decision point, for instance, you say, okay, this patient will not go on extracorporeal membrane oxygenation (ECMO). This patient will go on ECMO. Do you guys have very clear identified stopping points once you urgently list somebody?

Dr Ahmad. That's a great question. I'd probably be a millionaire if I could quantify the surgeon's eyeball test, but I can't. That's essentially what it comes down to, but in terms of the hard sort of stop points and checkpoints and putting a patient on ECMO or not, we typically stick to patients 55 years and younger as a programmatic guideline. I don't think there's a whole lot of data behind that, and we've seen very debilitated 20-year-olds and very healthy 60+-year-olds who have gone through this process with extracorporeal support and have had reasonable outcomes.

But those are the general numbers, of course. We would typically not initiate somebody on ECMO if they're 55 years or older or if they're extremely debilitated. Now, what I will say is that we have used ECMO as a bridge to decision in such sick patients. If we think they have the potential to rehabilitate, we would not list or refuse them upfront. Rather, we put them on ECMO, rehabilitate them, and then make a decision whether to proceed with the transplant listing or to withdraw support.

Dr Lau. Thank you.

Dr Ahmad. Thank you.

Dr Marcelo Cypel *(Toronto, Ontario, Canada)*. Very nice presentation. So I just have a couple of questions. One of them is of these 200 patients, urgent listing, were some of these patients known or added to the transfer program and they just were not listed but they had a rapid deterioration and then were eventually listed? My other question is: What was the wait time for these people waiting for transplants? Have you used more extended-criteria donors for this population to get them access early on so they have that data?

Dr Ahmad. To answer your first question, some of them were listed to our center, although the vast majority were either transferred from other medical intensive care units when they were in new-onset respiratory failure or from other transplant centers that were unwilling to list them. Second, the wait time from listing to transplant, as I showed, is about 20 days in these urgent patients. Regarding the wait time from hospital admission to listing, I don't have that. That's a good question.

Dr Cypel. Finally, how do you manage the patients who come to your center fully sedated on a ventilator and haven't had a discussion about lung transplant?

Dr Ahmad. That's a great question, Marcelo. These are challenges we struggle with every time in every single one of these patients, and some of the factors that we struggle with post-transplant are not really physiologic. They could be more psychosocial. Some patients may never have wanted a transplant; these are some of the issues we all struggle with, and using ECMO as a bridge to decision has really helped us get through some of these difficult situations.

Dr Kenneth R. McCurry *(Cleveland, Ohio)*. I'll just extrapolate on that. We've probably done about maybe 10 or so transplants, I would say, in the last 18 months along those lines, Marcelo. Patients that came to us either on ECMO or on a ventilator, sedated and paralyzed, that we rehabbed and ultimately got to a point where we felt we could transplant.

Dr Lau. One more question and then one comment. The one patient who died in our study was an urgently listed pa-

tient, and we found that he had cancer, and we took his lungs, both lungs, and also in the lymph nodes at the time of explant. What do you do? Do you complete the entire workup for these patients? Obviously, we had a computed tomography scan, it was unexpected, but in general do you get colonoscopies? How do you do all that? Urgently?

Dr Ahmad. We've had that situation before, too, where unexpected malignancy was found and, in the explants, but these patients were not in the urgent group. So, in terms of the workup, getting complete testing can be challenging. As you know, some of it depends on what physiologic shape or form the patient is in. When patients are intubated or require high oxygen supplementation, such as non-rebreather masks, getting gastrointestinal studies is out of question. We end up relying on detailed history and imaging studies. We do measure prostate-specific antigen level routinely.

But that's about it. Some of the bigger and important things that can get skipped when a patient, let's say, is on mechanical ventilation or ECMO, are the psychosocial evaluation, the oncologic evaluation, the family/social support, and so forth. Despite thorough multidisciplinary evaluation, and when time is of the essence, family and social structure rally around and agree to support, but it's really after the transplant when things start to change, and there are cases where we have struggled with these unpredictable issues.

Dr Lau. How do you get everybody on the same page? So, you have a transplant surgeon at the meeting, and they agree to do this urgent patient, and then tag, you're it. It's your partner doing the transplant. Everybody buy into that?

Dr Ahmad. We're fortunate that we have a very tight-knit group that after extensive multidisciplinary evaluations, including gastrointestinal workup, oncologic workup, and so on, makes a combined decision. Some urgent decisions are made on e-mail exchanges, but typically with the whole group contributing to the decision-making. We're also somewhat unique in that we have both thoracic and cardiac surgeons in the multidisciplinary group, and some of our pulmonologists and thoracic surgeons are also part of the thoracic oncology teams, which makes some of these complex selections easier.

Dr McCurry. I would say that the default position in our program, certainly for the last decade, has been to be aggressive, and that's the way we see it. We believe in giving patients an opportunity at survival and that's the way we approach things. Thank you very much.

Dr Ahmad. Thank you very much.