OPTN Histocompatibility Committee
Meeting Summary
February 8, 2022
Conference Call

Peter Lalli, Ph.D, D(ABHI), Chair
John Lunz, Ph.D, D(ABHI), Vice Chair

Introduction

The OPTN Histocompatibility Committee met via Citrix GoToMeeting teleconference on 02/08/2022 to discuss the following agenda items:

1. Public comment presentation: Establish Eligibility Criteria and Safety Net for Heart-Kidney and Lung-Kidney Allocation
2. Public comment presentation: Continuous Distribution of Kidneys & Pancreata Request for Feedback
3. Virtual cross-matching

The following is a summary of the Committee's discussions.

1. Public comment presentation: Establish Eligibility Criteria and Safety Net for Heart-Kidney and Lung-Kidney Allocation

A member of the Ad Hoc Multi-Organ Transplantation (MOT) Committee presented information about their proposal establishing eligibility criteria for simultaneous heart-kidney (SHK) and simultaneous lung-kidney (SLuK) transplants, as well as safety net prioritization for heart or lung recipients who need a kidney subsequent to their other transplants. Some members of the Histocompatibility Committee provided feedback about the proposal.

Summary of discussion:

The OPTN Histocompatibility Committee appreciated the opportunity to review this proposal. The Committee members were supportive of the Ad Hoc MOT Committee's efforts.

Committee members raised two issues for additional discussion. First, a member asked that the Ad Hoc MOT Committee consider an approach for prioritizing the optimal organs in circumstances where there are multiple organ combinations competing for kidneys. This proposal is the first step in a series of efforts the Ad Hoc MOT Committee will be addressing during the next few years, including the prioritization mentioned. Second, another Committee member recommended that as part of their proposal, the Ad Hoc MOT Committee should include follow heart, lung, or liver recipients who later receive a kidney through the safety net prioritization process in order to determine whether the recipients would have qualified for the kidney at the time of their heart, lung, or liver transplant. The member added that in such cases, if the recipient did not qualify for the kidney at the time of the initial transplant, then he or she should excluded from using the safety net prioritization pathway to obtain a kidney.

Next steps:

The Committee will submit a formal response to the OPTN website.

2. Public comment presentation: Continuous Distribution of Kidneys & Pancreata Request for Feedback

The OPTN Kidney Transplantation Committee and the OPTN Pancreas Transplantation Committee are developing continuous distribution allocation frameworks. The committees created a Request for Feedback document for the January – March, 2022 public comment cycle. The Chair of the Histocompatibility Committee serves as an at-large member of the Kidney-Pancreas Continuous Distribution Workgroup, and presented the information from the Request for Feedback document to the Committee. The committees are also requesting that the public complete the AHP exercise.

Summary of discussion:

The Kidney and Pancreas committees are seeking feedback regarding the next steps in continuous distribution. The Request for Feedback document is intended to update the community about where the committees are in the process of developing a continuous distribution framework, and also to request the community's input to help guide how the new allocation framework might be built. The two committees are working through the attributes that should be considered in the framework and how those attributes should be prioritized, and the committees are seeking public feedback about these considerations.

As has been discussed previously, the rationale for transitioning organ-allocation policies to continuous distribution frameworks is to implement a more equitable approach to allocation. This includes removing the "hard boundaries" found in some of the allocation policies, and establishing more flexible allocation systems that reflect the specific clinical conditions and requirements of each organ.

The Kidney and Pancreas committees are seeking feedback about the proposed attributes and the associated rating scale recommendations. Additionally, they are seeking community input about how the different attributes should be prioritized. The Kidney Committee is currently considering attributes for: medical urgency, post-transplant survival, candidate biology, patient access, and placement efficiency. The Pancreas Committee is considering: candidate biology, patient access, and placement efficiency. The post-transplant survival attribute includes factors such as Human Leukocyte Antigens (HLA) matching and the Estimated Post-Transplant Survival (EPTS) score. The attribute being considered for candidate biology is comprised of blood type and Calculated Panel Reactive Antibodies (CPRA). These are the attributes and components about which the Kidney and Pancreas committees are requesting the Histocompatibility Committee's feedback.

Previously, the Histocompatibility Committee had reviewed an analysis of the outcomes of kidney-alone patients and the types of mismatches that impact graft failure. The results indicated that mismatches at the DR locus had the most significant impact on graft failure. The results were surprising to the members of the Kidney-Pancreas workgroup at the time, and members raised a number of questions. As a result, the workgroup recommended prioritizing the DR antigen matching for kidneys in a way that is similar to the current allocation process. The workgroup reviewed the results of the analysis of pancreata, and determined that it was not an important-enough factor, and was ultimately removed from that allocation process.

The Kidney-Pancreas Workgroup also considered how mismatching may potentially impact various minority groups differently. The result of such differences could disadvantage some minority groups based on frequency of different HLA types in the donor population. The Workgroup examined the use of different rating scales for minority HLA types in an effort to mitigate any potential disparities in the HLA matching algorithm.

The Workgroup also examined whether to use a linear or non-linear rating scale that could be used for CPRA scores within the Candidate Biology attribute. The current system uses a non-linear scale. The Workgroup decided that the non-linear scale is more appropriate. Patients who are more highly sensitized will receive more points within this attribute than patients with minimal sensitization. Under the allocation framework being considered, there will still be prioritization for patients with PRAs of 99 percent and 100 percent.

For blood type, the Workgroup is considering the use of a linear scale that takes both blood type and CPRA into account. The concept is that because candidates who are blood type O or have a high CPRA are going to experience the greatest challenges when trying to find a compatible donor, they should be given more points than candidates who do not face those hurdles. The scale the Workgroup is proposing for candidate biology looks at the probability of finding an ABO acceptable donor as well as an HLA acceptable donor and using that combination to calculate the amount of points in a way that prioritizes the candidates facing the greatest 'biology' challenges when trying to find a donor. By examining the data, it can be determined what percentage of the donor pool a candidate is match with, and the same is true when considering blood type. The goal is to calculate the probability of finding a donor who will match with a candidate based on CPRA and blood type.

A member asked for confirmation that under the proposal, candidates with the highest CPRAs would maintain their priority access to kidneys, as opposed to the proposal allowing a candidate's score to max out on their CPRA or candidate biology attribute, while the other attribute scores remain low and the candidate loses his or her priority that exists in the current system. The Kidney Pancreas workgroup is requesting feedback about that topic and whether such prioritization is necessary. If it is, then scoring can be developed such that high CPRA candidates are awarded points in a way that ensures they will always have the highest prioritization. Additionally, the proposal is intended to account for the differences between CPRA and blood type and the probability of receiving an offer. For example, when considering blood type, type O candidates have the least access to donors; however, that is different than the access a candidate with a CPRA of 100 percent has. As a result, a blood type O candidate might only get half the points that a CPRA 100 percent candidate might get. The amount of points given is very much intended to reflect a candidate's access to the donor pool based on each factor being considered. And so, whether a high CPRA candidate should always get the most access is ultimately a values laden decision. This led to a discussion of the AHP exercise that the Committee is being asked to complete. The exercise asks participants to weigh certain factors against each other. The results are then grouped in different ways to identify how certain groups or entities think the attributes shouldl be weighted.

Next Steps:

The Committee will submit a formal response to the OPTN website. Members were also told that they will be receiving an email in the future providing instructions for completing the AHP exercise.

3. Virtual cross-matching

Summary of discussion:

Members were told that the Committee is working with ASHI representatives to create a virtual cross-matching workgroup. The workgroup's objective will be to develop more standardization of the process. This will include subject areas like how to define virtual cross-matching, how to manage it, and how to potentially build for all of those factors moving forward. The workgroup is in the initial planning stages, and is expected to have benefit for the Committee and the community as a whole.

Next Steps:

More information will be provided to the Committee members, and there will be more discussion during the Committee's March meeting.

Upcoming Meetings

- March 8, 2022
- April 5, 2022, Virtual In-person

Attendance

- **Committee Members**
  - Peter Lalli, Chair
  - John Lunz, Vice Chair
  - Caroline Alquist
  - Medhat Askar, Visiting Board Member
  - Valia Bravo-Egana
  - Amber Carriker
  - Reut Hod Dvorai
  - Idoia Gimferrer
  - Bill Goggins
  - William Hildebrand
  - Evan Kransdorf
  - Gerald Morris
  - Omar Moussa
  - Cathi Murphey, Past Chair
  - Vikram Pattanayak
  - Jennifer Schiller
  - Karl Schillinger
  - Manu Varma
  - Eric Weimer
- **HRSA Representatives**
  - Jim Bowman
  - Marilyn Levi
  - Raelene Skerda
- **SRTR Staff**
  - Katie Audette
- **UNOS Staff**
  - Courtney Jett
  - James Alcorn
  - Amelia Devereaux
  - Betsy Gans
  - Lindsay Larkin
  - Eric Messick
  - Amber Robinson
  - Sarah Scott
  - Leah Slife
  - Kaitlin Swanner
  - Joann White