



For Immediate Release

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Technology and Pathways Advancing Future Transplant Patient Care Discussed at the International Society for Heart and Lung Transplantation (ISHLT) 38th Annual Meeting & Scientific Sessions

NICE, FR April 13, 2018 – During the International Society for Heart and Lung Transplantation (ISHLT) 38th Annual Meeting & Scientific Sessions, an entire symposium was dedicated to examining the impact of technology on patient care, including mortality. New health and monitoring portals are being created to help patients, post-transplant manage their care, access to instructional information, and quickly access their physician via telehealth video conferencing and messaging.

“We live in a fascinating age where advancements in technology open pathways to helping clinicians provide innovative patient care solutions,” said Christian Benden, MD, FCCP, Scientific Program Chair for the ISHLT 38th Annual Meeting and Scientific Sessions. “This topic will not go away any time soon, and it will continue to be studied as we find more effective ways to incorporate technology into patient monitoring and post-transplant care.”

Assessing the Need for Palliative Care

During a single-center, cross-sectional pilot study of 90 chronic heart failure patients, including 69 heart transplant patients and 21 left ventricular assist device (LVAD) recipients; data suggested a distinctive need for palliative care in both cohorts. A total of 32 percent of heart transplant recipients and 67 percent of LVAD patients scored above the cut-off indicating palliative care need. Palliative care is a patient care strategy, which sets out to improve a variety of patient-centered outcomes including quality of life, spiritual well-being, distress, and anxiety/depression.

The study utilized three standardized tools to assess palliative care needs including:

- MIDOS Questionnaire—a self-assessment of 10 frequent systems
- Distress Thermometer—a self-assessment of psychological burden
- Palliative Care Screening Tool for Heart Failure Patients—a physician directed screening.

The pilot study identified that an interdisciplinary approach to implementing palliative care into the standard treatment of LVAD and heart transplant recipients seems advisable.

IPADS and LVADS: VAD Coordinator Telemonitoring

As technology adoption continues to grow within all age brackets, telehealth has grown considerably over the last several years. Researchers are using this as an opportunity to create programs that could potentially allow for improved patient care for recipients of a left ventricular assist device (LVAD). A team of clinicians teamed up with a telehealth company to create a portal that would be installed on an iPad® that the patient would be able to take home and monitor LVAD performance.

The system would also allow physicians to monitor patients remotely. Researchers wanted LVAD patients to see the portal as a resource, which included instructional videos, messaging and video capabilities, and have the potential to replace urgent medical visits.



Of the five initial patients that have tested out this new portal, three have completed heart transplants and indicated the telehealth portal was easy to use, intuitive, and efficient. The team indicated that additional research is needed to define the portal's effects on clinical outcomes.

A Look at Interactive Health Technologies

Mohammad Alrawashdeh, PhD, MSN, and team examined the acceptance and adoption of interactive health technologies (IHT) to support patient self-management such as apps and portals available on mobile and tablet devices. Results of the 82-clinician study, which consisted of physicians, advanced practitioners (physician assistants, nurse practitioners), and care coordinators (registered nurses, physiotherapist) at the University of Pittsburgh Medical Center identified three reasons or concerns for adoption of IHT:

- Availability of hands-on training by other early-adopter clinicians
- Focus on its usefulness in providing enhanced assessments and care delivery for patients
- Ensure the introduction of IHT does not hinder, but rather facilitate their workflow

Bluetooth Tablet-Based Technology to Aid Monitoring After Lung Transplantation

In a single-center pilot study, researchers examined 36 individuals who received lung transplants between April 2013 and October 2017. A total of 18 individuals were issued a device to monitor them after surgery and communicate with physicians. Early experiences have indicated that using novel technology has allowed for better patient compliance, satisfaction, earlier detection of potential issues and fewer hospital readmissions. The current obstacle to overcome before this practice is more widely available is the lack of insurance reimbursement for this technology.

Telehealth and Its Effect on Mortality Rate in Lung Transplantation

Aman Sidhu, MD, FRCP, with the Toronto Lung Transplant Program reviewed data of lung transplant consultations from January 1, 2010, to December 31, 2015. With over 500 referrals annually for potential lung transplant candidates, researchers wanted to examine if there were any differences in outcomes for those candidates who were consulted via telehealth videoconferencing versus live in-person. Results showed that the mortality rate between the two groups was similar. Overall, researchers concluded telehealth consultation for lung transplant is equivalent to an in-person consultation in mortality risk within the studies time frame.

Mobile Health Intervention on Long-term Non-adherence in Lung Transplantation

One of the first studies to rigorously evaluate the long-term effectiveness of a mobile health intervention, specifically for lung transplant recipients, sought to discover if interventions can reduce long-term non-adherence. Little was previously known about non-adherence, or a patient's ability to follow or not follow a complex medical regimen as associated with lung transplantation.

In the short-term, two to three years post-transplant, non-adherence is highly prevalent, gets worse over time, linked to poor health outcomes and not definitively linked to most patient characteristics. Researchers examined the use of a customized smartphone app to assist with adherence and self-monitoring—Personal Assistant for Tracking Health, or Pocket PATH®.

Participants in the study were, on average, 4.2 years post-transplant. Researchers found long-term non-adherence is high, Pocket PATH's long-term impact on non-adherence is limited, and non-adherence at one year predicts long-term non-adherence. Noted during the study was that psychological distress was associated with non-adherence.



New Technologies to Advance Future Transplant Patient Care

During Friday's plenary, Stefan Schneeberger, MD, MBA, provided an overview of some of the latest advances in organ transplantation and aimed to put the emerging technologies into perspective. With the ongoing organ shortage, the need to find novel approaches to organ recovery and preservation is critical to future patient care. Schneeberger shared the latest in advanced organ preservation, regeneration, and creation, including 3D bioprinting, in-vivo organ generation, whole tissue engineering, and gene editing in transplantation.

About ISHLT

The International Society for Heart and Lung Transplantation (ISHLT) is a not-for-profit, multidisciplinary, professional organization with more than 3,800 members from over 45 countries, representing over 15 different professional disciplines involved in the management and treatment of end-stage heart and lung disease. All ISHLT members share a common dedication to improving the care of patients with advanced heart or lung disease through transplantation, mechanical support, and innovative therapies via research, education and advocacy. For more information, visit www.isHLT.org.

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