



April 29, 2016

# DAILY *Links*

## 36<sup>th</sup> Annual Meeting & Scientific Sessions Marriott Wardman Park, Washington, DC

### Andy We've Got Your Number



*Will you still need me, will you still feed me  
When I'm sixty-four? – The Beatles*

- **32** served on the Symposium Planning committee
- **10** discipline 'liaisons' provided expert advice on content for the program planning process
- **295** acted as abstract reviewers giving us a robust way to prioritize submitted content
- **85%** abstract acceptance rate for this year's meeting. The highest we have ever achieved.
- **4** for the fantastic four members of ISHLT staff (Susie, Lisa, Megan and Amanda) who have supported the Annual Meeting process from start to finish.
- **3708** attendees at this year's meeting, which has smashed our previous highest total of 3188 in 2014.
- **For more information, call Jenny at 867-5309**



**When you come to a fork in the road, take it!**



### **Thursday Morning Presidential Address**

Yogi Bear was the inspiration for this year's presidential address. President elect, Duane Davis encouraged members to participate in the society's strategic framework via survey's sent out from the society and for members to engage. ISHLT's mission is to enhance membership value, engage the community worldwide and improve science through driving innovation.

He challenged us to use our clinical acumen to utilize organs and asked center's to collaborate and learn from each other. He requested a society of quality through accountability, responsible regulation and supporting the science. The future is bright and we have to remain open minded, supportive of science and most importantly patient focused.

### **All against the graft – cause and effect of endothelial damage**

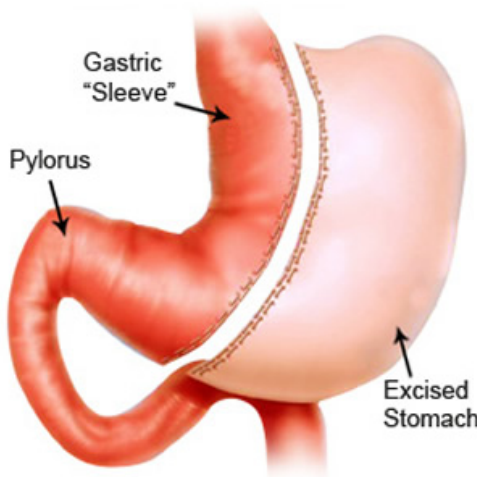
Like fibrin stranded in this packed session, it was clear that we care about long term outcomes for our patients. Dr Deborah Budge argued that endothelial injury is the hallmark lesion for all inflammatory reactions in heart transplant patients. Fibrin stranding can be seen as early as day 9 post transplantation and she called for fibrin evaluation in all post-op biopsies as a routine. Looking at a number of **12,040** biopsies from the number **1078** patients, she showed that Fibrin is easily detected by flouroscopy or by immunohistochemistry and is strongly linked to mortality in this

patient population. Dr Imran reported on the use of Cardiac MRI in a prospective study with T1 and T2 mapping. In his study he scanned both transplant and healthy controls and showed that you can predict rejection earlier than biopsy alone with this non-invasive monitoring. The use of a standardised technique, easily reproducible and arguably possibly better than the inter-user variability compared to biopsies alone could maybe reduce the need for too many biopsies but, at what cost? Dr Jose Vazquez de Prada countered with an argument that routine biopsies has not been carried out in Santander, Spain unless guided by echocardiographic criteria since 1992, this study looked at 488 patients. They found they were able to reduce the number of biopsies to 1.49 biopsies per patient year with some never having a biopsy. Did this affect patient outcome? Not in Spain.

## Which state fairs the worst in obesity statistics?

**You guessed it right? Arkansas**

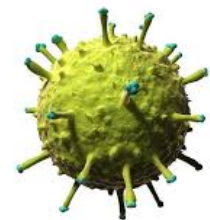
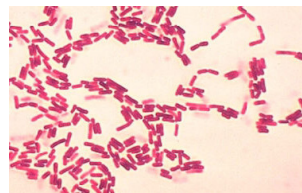
The effect of gross obesity in heart failure is a big problem for some but not all of us in the transplant community both in transplant and in MCS. This session featured a great talk by Douglas Horstmannshof from Oklahoma who works in a centre with the 6<sup>th</sup> largest amount of obesity in referral for treatment of advanced heart failure. They reviewed the results of laparoscopic sleeve gastrectomy where 50% of the stomach is lost in a safe and effective manner. This reduced their study cohort from an average BMI of 45 down to 35 and allowed for greater access to MCS +/- transplantation. Keeping along with surgical procedures, the issue of bilateral versus unilateral sympathectomy in a rat model was presented by Luiz Moreira with very promising results in decreased infarction size (histologically) and also in biomarkers of apoptosis at just one week post induction of MI. Whether a clinical trial is appropriate before data on comparison to medical heart failure treatment is still to be decided. Finally, in summation we leave you with the quote of a patient, provided by Anne Kelemen from Medstar Washington Hospital Center



***"My wife's impression from the doctor was that I'm impotent. I asked the doctor for viagra and I was told to first talk to my wife to see if she is interested."***

***"The stupidest germ is cleverer than the cleverest microbiologist."***

**- George Klein**



## **Is There any Hope for the Future?**

### **Review Concurrent Session 1: Complications after Mechanical Support**

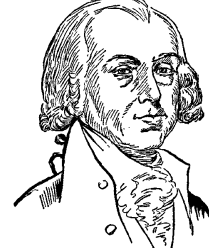
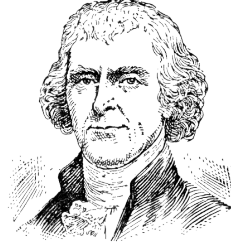
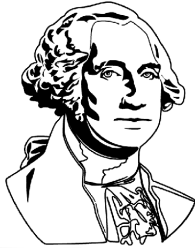
The first concurrent session of the meeting covered the myriad of complications seen after LVAD, but did offer a dim light at the end of the tunnel. Dr. Milano's review of ENDURANCE trial data post HVAD changes, showed that thrombosis rates did improve in those patients but that there were only small changes in CVA rates. Dr. Acharya's INTERMACS database analysis concluded that stroke predicts higher mortality after LVAD and that females tend to be affected more frequently: more research on the reasons for this needs to be done. Dr. Wong presented an algorithm for re-anticoagulation after stroke based on size of deficit. Switching gears from stroke and thrombosis, Dr. Grandin proposed a new definition for early RHF after LVAD implantation based on severity. Not surprisingly, those with more severe RHF had higher early mortality. An informative presentation by Dr. Manintveld regarding post LVAD ventricular arrhythmias revealed that post LVAD VA's are not associated with worse survival...What a relief! Finally, Dr. Psocka showed us that tunneling the driveline out through the chest wall as opposed to the abdomen may decrease driveline site infections—again further study and comparison to traditional methods is needed. Most importantly to patients, this alternative exit site appears to be as comfortable.

## **Examining Our Patients' Inner Eeyore**

### **A Review of Concurrent Session 8 – Quality Over Quantity? Quality of Life in MCS**

Joseph Rogers shared results from the ENDURANCE trial, a prospective, multicenter evaluation of 450 adult patients randomized 2:1 to either the Heartwave<sup>®</sup> or a control Heartmate II<sup>®</sup> LVAD. He discussed HVAD patients with improvements in 6MW distance were more likely younger and female. Also, there was a marked reduction in the level of improvement in patients with sepsis, renal and respiratory dysfunction. Connie White-Williams provided results from a health related quality of life (HRQOL) study looking at patients from pre-implant to 2 years post implant. Using paired data, they found clinically significant improvements in HRQOL from pre to 2 years post implant in all 3 implant strategy groups. Results were remarkably similar in both the genetic and disease specific instruments. Geetha Bhat highlighted the potential effects of LVAD implementation on depression and anxiety. Both scores improved significantly after implantation. Factors contributing to changes in depression and anxiety after LVAD could be related to the improvement in AHF symptoms, functional capacity and quality of life. Josef Stehlik reported results from the prospective, observational ROADMAP study. In ambulatory, non-inotrope, heart failure subjects enrolled in the ROADMAP study, patient reported QoL metrics indicate improvement with LVAD therapy in usual activities, mobility and depression/anxiety. The detailed patient reported outcomes can improve patient understanding of treatment choices and facilitate shared patient-provider decision making in advanced heart failure. Roxana Ghashghaei tackled caregiver burden for VAD caregivers. She highlighted results from their single center study that showed VAD caregivers have significantly less caregiver burden difficulty or demand than

caregivers of patients with other chronic diseases, including heart failure. Matthew Inra discussed causes and trends in LVAD readmissions after implantation. Their group found that while hospital readmissions after LVAD are frequent, with the most common causes including bleeding, infection and arrhythmia, patients are still spending the majority of time on support out of the hospital.



## **CLAD WARS – Episode 4: A New Hope?**

### **Review Concurrent session 15: Novel therapeutic strategies for chronic lung allograft dysfunction**

This afternoon, 2 centers reported their initial experiences of mesenchymal stem cell (MSC) therapy in lung transplant recipients. Daniel Chambers (The Prince Charles Hospital, Brisbane) shared results of the phase I study examining safety and feasibility of this treatment. 10 patients with BOS grade II / III and risk factors for rapid progression underwent MSC infusion and were followed. 8 patients experienced stabilization of lung function at 1 year, the remaining 2 succumbing to progressive BOS. An Australia-wide phase 2 study in patients with new-onset CLAD will randomize 82 patients to MSC or placebo, making it the largest ever study of a cellular therapy for any pulmonary indication.

A/Prof Chambers said 'The immunosuppressive and immunoregulatory properties of MSCs make them particularly attractive in the fields of bone marrow and solid organ transplantation, and the ease of delivery of MSCs to the lung using the intravenous route makes chronic lung allograft dysfunction a prime disease target. I am hopeful that this and related approaches will in time transform the outlook for patients with CLAD.'

Cesar Keller (Mayo clinic, Jacksonville Florida) also reported preliminary results of a phase 1 study. A single MSC infusion has been administered to 9 patients with escalating dose. The first 6 patients have been followed to year with significant improvement in lung function with lower dose MSC. After 6 months' follow-up, mean lung function had stabilized with 4 patients improving, 2 stabilizing and 3 deteriorating. We look forward to the group's second presentation on Saturday exploring the effects of MSC in these patients at the cellular and molecular level.

## Coming Attractions

### **Malignancy and thoracic transplant (Sunrise Symposium 3)**

#### **“Know the rules well so you can break them effectively” – Dalai Lama XIV**

Early risers this morning will be treated to a thoughtful symposium reviewing malignancy, thoracic transplant and its implications. The consensus guidelines state that recent malignancy is considered an absolute contraindication to transplant. Yet with experience we realize it is often less straightforward. In what situations is it permissible to bend the rules? David Weill (University of Stanford and committee chair of the most recent consensus guideline) gives his thoughts on this issue. Much of the concern following transplant pertains to immune deregulation and accelerated tumor turnover/growth. Monique Malouf (Sydney) will address whether generic screening guidelines developed for the non-immune suppressed patient should be applied to our special at risk population. How do we manage the unexpected – the surprise explant malignancy or worse an implanted cancer within the pulmonary allograft? Thomas Waddell (Toronto) will give an overview of this topic. Finally, some malignant processes lend themselves to pulmonary transplantation – GVHD following bone marrow transplant is one such instance. Samuel Goldfarb (Pittsburg) will explore this area.

### **Don't you always get up early with the kids? (Sunrise Symposium 04)**

This session requires *bean'* cracked out on coffee, coffee, coffee, as it will start with shunt physiology, it's classification and the association with pulmonary hypertension in the pediatric population. Warren Zuckerman from Columbia has 15 minutes to get the audience engaged with 'Not every hole is created equally: Congenital Shunt Physiology, Classification and the association with pulmonary hypertension. Diane McGlothlin from San Francisco will focus your mind back on your patient's with a case history giving insight into pulmonary arterial hypertension (PAH) and ASD. Maurice Beghetti represents Europe with the end spectrum of PAH and is hoping that we don't leave feelin' blue.... To close the session, Alexander Opotowsky finishes with the role of drugs and we come to some closure on the issue of PAH in Congenital Heart Disease.



### **You Found a What in Your What?**

#### **The Fly in the Ointment: Nosocomial Infections (Sunrise Symposium 6)**

Multidrug-resistant organisms are an increasing cause of infections in thoracic transplant, as well as in MCSRD recipients, especially when admitted to the ICU. Mary Bradbury will discuss the role of antimicrobial stewardship programs to optimize antimicrobial use in an effort improve clinical outcomes while addressing the underlying issues of emerging resistance. Valentina Stosor will look at preventive strategies to

decrease the risk of bloodstream infections in the MCS patient population. Angie Lorts will look at the role of antibiotics in devices, SIRS and the open chest. Barbara Alexander will tackle infection cluster outbreaks in the transplant center setting.



### **Improving Outcomes: Show Me Your Soul (Concurrent Session 19)**

This session featured a diverse group of multidisciplinary presenters covering a variety of topics including BMI and other body composition measurements, nutritional support on ECMO, the impact of physical activity and vocal cord palsy. James Tatum discussed change in BMI over time after LVAD implantation, dispelling the myth LVAD = magic weight loss. Eleanor Capel shared their center experience of pre-lung transplant body composition and associations with post transplant outcomes. Utilizing BIA (bioelectrical impedance analysis) can identify patients in need of intervention that was not picked up with traditional BMI measurements. Rupal Patel presented their center data highlighting patients undergoing ECMO as a bridge to transplant are not achieving adequate nutritional support during the first 7 days. Feedings are being initiated within 72 hours; however, beyond 5 days disruptions to feeding and tolerance become issues. James Walsh shared their center abstract looking at the impact of lung transplant on daily activity in the setting of improved respiratory function and exercise capacity. Nisha Patel presented the incidence of silent aspiration in patients with vocal cord paralysis. Mitesh Thakrar shared the results of a two Canadian center study on the benefits of Iyengar yoga on health related quality of life in patients with PH. Patient reported benefits included decreased anxiety and depression, as well as mild improvement in dyspnea.

### **Tired of the Same Old Thing....**

### **Pimp My Pump: Novel MCS Design and Management (Concurrent Session 21)**

New ideas in MCS, is the theme of the moment in what is guaranteed to be an enthralling Friday morning session. Dr. Abdullah will compare ventricular unloading among CF-LVADs using the ramp test. Dr. Grinstein will review the use of HVAD waveforms as a marker of CI and PCWP. Dr. Bartoli will inform us LVAD features and settings that may minimize effects on vWF. Dr. Dobarro will discuss aortic valve closure in HVADs and its effect on outcomes. Dr. Engelke will examine fluid dynamics in partial cardiac support. Last but not least, Dr. Soleimani will show us how to exchange the HMII for the HVAD using a minimally invasive approach.

***"A hospital bed is a parked taxi with the meter running."***

**– Groucho Marx**



### **Let's be donor specific (Concurrent Session 23)**

David Baran and Luciano Potena chair this exciting session reporting a move to improve heart transplantation rates using DCD donation. Mark Connellan from St. Vincent's in Sydney, gives insight into a pioneering move of using the OCS platform and reports 100% survival on this early work. Staying with technology. Diana Garcia Saez challenges the floor next to utilize our donors with extended criteria for heart transplantation using reduced LV ejection fraction, LVH, donor cardiac arrest, coronary artery disease, known to be cracked out on cocaine abuse or following circulatory death. Vidang Nguyen from Seattle asks if the highest risk of heart transplantation is better than the waiting list mortality. John Squiers from Baylor and David Baran from Israel interact on the donor sequence and acceptance in the UNOS database and safe transplantation. Fardad Esmailian from the west brings us back to the technology as we praise the impact the OCS has on the excellent treatment strategy we have in our armamentarium known as orthotopic heart transplantation. This session promises to be the best gift we have on Friday, not one to miss!



### **Dancing in the Dark**

### **Beyond Adherence: What's New Out There? (Concurrent Session 25)**

There are a host of system, institution and patient specific factors that may affect adherence in the transplant population. Sadeer Al-Kindi will look at the impact of early adoption of the Affordable Care Act Medicaid expansion on Heart Transplant Listings in the US. Mary Amanda Dew and Jesus Casida will look at the prevalence and risk factors of late-term nonadherence and in lung transplant recipients, as well as potential targeted interventions for this group. Maan Cajita will share findings from the Bright Study, particularly the relationship between adequate health literacy and physical activity. Fabienne Dobbles will share results from a study looking at the efficacy of a theory based multicomponent tailored intervention on medication adherence and clinical outcomes. Finally, Linda Bogar will review the results of a multicenter quality of life survey regarding LVAD drivelines.



## ***Ch Ch Changes***

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