Pre-Meeting to the
TTS 2016 Congress

# FINAL PROGRAM

## 10th International Transplant Infectious Disease Conference

# TID 2016

Hong Kong • August 18, 2016 • www.tts.org/tid

TID
Transplant
Infectious
Disease

Cutting Edge Topics in
Transplant Infectious Disease for the Transplant Clinician

TID is a Section of
The Transplantation Society

# BECOME A TID MEMBER TODAY!

*"Throughout the years, I've watched TID grow and come "of age". I'm proud of what it has accomplished and feel in debt to TID and its leaders. For those of us coming from "the other end of the world", the TID section has been very generous in listening to our voices and in appreciating our input. The sense of belonging has been one of my most gratifying experiences. Getting together for different academic activities has allowed me to network, and now my infectious disease colleagues have become my friends."*

**Dr. Roberta Lattes, TID Consultant**
Infectious Diseases, School of Medicine
University of Buenos Aires
Buenos Aires, Argentina

## BENEFITS OF MEMBERSHIP

- A free online subscription to the journal *Transplant Infectious Disease* (Full Members only)
- Ongoing TID webinars
- Access to TID meeting recordings
- TID membership directory
- Reduced registration fees at TID international conferences
- Nomination and voting privileges (Full Members only)
- Members receive a $50 reduction off TTS dues when paying both at the same time

## HOW TO BECOME A MEMBER OF TID

- Visit TID online at: **www.tts.org/tid**.
- Complete the online application.
- Submit your application for review.
- After your application has been approved, you will receive a TID member login.

For more information about TID membership, please email:
**membership@tts.org**

## TID MISSION:

**To promote research and education in the prevention, diagnosis, clinical consequences, and management of infectious diseases in transplant recipients.**

## TID MEMBERSHIP CATEGORIES

### Full Members

**$ 85 / 1 year**
**$150 / 2 years**

Clinicians, Allied Health Professionals and research investigators with an interest in infectious diseases and transplantation, and who are contributing to the advancement of knowledge in the field.

### Trainee Members

**$ 75 / 1 year**
**$130 / 2 years**

Individuals enrolled in pre- or post-doctoral training programs relevant to the science and clinical practice of transplant infectious disease, and individuals who have completed their training but have not yet qualified for full membership.

### Associate Members

**$ 75 / 1 year**
**$130 / 2 years**

Individuals who have demonstrated a sustained and continued interest in the field of infectious disease but who do not qualify for full or trainee membership.

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The Transplant Infectious Disease Section of The Transplantation Society would like to thank Roche for supporting the 10th International Transplant Infectious Disease Conference through an educational grant.

# About TID

The mission of the Transplant Infectious Disease Section is to promote research and education in the prevention, diagnosis, clinical consequences, and management of the infectious disease problems of the transplant recipient.

## 2015–2017 Council Members

| | |
|---|---|
| President: | Michele I. Morris, Miami, FL, United States |
| President-Elect: | Clarisse Machado, São Paulo, Brazil |
| Past President: | Deborah Marriott, Sydney, Australia |
| Secretary-Treasurer: | Ligia Pierrotti, São Paulo, Brazil |

Councilors

Sharon Chen, Westmead, Australia
Hans H. Hirsch, Basel, Switzerland
Michael G. Ison, Chicago, IL, United States
Nassim Kamar, Toulouse, France
Ban Hock Tan, Singapore

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# Message from the Conference Chairs

## Welcome Dear Colleagues

It is our great pleasure to welcome you to the 10th International Transplant Infectious Diseases Conference in exciting Hong Kong! As the host of the 2016 conference, the Transplant Infectious Disease Section of The Transplantation Society is delighted to bring together international experts in transplant medicine from all over the world to share their knowledge in this interactive educational forum. Our speakers and participants represent many different continents and transplant programs. The program includes scientific and clinical presentations addressing a broad range of exciting subjects. All topics are intended to be cutting edge and clinically oriented. The agenda has been drafted to include ample time for questions and discussion of emerging topics in Transplant Infectious Disease.

In addition to learning from the outstanding curriculum, we encourage all of you to take advantage of this unique opportunity to meet and interact with other attendees and speakers. The connections you make with colleagues practicing in similar areas of transplant medicine may help you understand the common challenges we face though we work in a variety of diverse settings. Take time to enjoy the coffee breaks and lunch, and consider joining all of us for the traditional TID conference dinner at the end of today's meeting.

The Transplant Infectious Diseases section is pleased to be a Pre-Meeting of the 26th International Congress of The Transplantation Society. We hope you have a wonderful time at both meetings, and that your visit to Hong Kong is enjoyable and enlightening. We also hope that your career is enriched by the colleagues you meet here, and that you are able to continue to communicate with one another long after you return home.

Enjoy the meeting!

Clarisse & Michele

**Michele I. Morris**
**Miami, FL, United States**

**Clarisse M. Machado**
**São Paulo, Brazil**

## Program & Organization Committee

**Sharon Chen**
**Australia**

**Ban Hock Tan**
**Singapore**

**Ligia C. Pierrotti**
**Brazil**

**Patrick Woo**
**Hong Kong**

# Presenters

**Marina Berenguer**
Consultant Hepatology & Liver Transplantation
Professor of Medicine
Hepatology & Liver Transplantation Unit
La Fe University Hospital
Valencia, Spain

**Michael G. Ison**
Associate Professor
Divisions of Infectious Diseases &
Organ Transplantation
Northwestern University, Feinberg School of Medicine
Chicago, IL, United States

**Diana Florescu**
Associate Professor,
Internal Medicine Division of Infectious Disease
Dept. of Internal Medicine
University of Nebraska Medical Center
Omaha, NE, United States

**Nassim Kamar**
Professor of Nephrology
Chief, Organ Trasplant Unit
Dept. of Nephrology & Organ Transplantation
Toulouse University Hospital
Toulouse, France

**Hans H. Hirsch**
Director Div. Infection Diagnostics &
Director Research Transplantation & Clinical Virology
Department Biomedicine
University of Basel
Basel, Switzerland

**Camille N. Kotton**
Clinical Director,
Transplant & Immunocompromised Host Infectious Diseases
Infectious Diseases Division
Massachusetts General Hospital
Harvard Medical School
Boston, MA, United States

# Presenters

**Clarisse M. Machado**
Chief of the Virology Laboratory
Institute of Tropical Medicine
University of São Paulo
São Paulo, Brazil

**Raymund R. Razonable**
Professor of Medicine,
Division of Infectious Diseases
Mayo Clinic
Rochester, MN, United States

**Deborah Marriott**
Senior Specialist
Clinical Microbiology & Infectious Diseases
St. Vincent's Hospital
Sydney, Australia

**Joanna M. Schaenman**
Assistant Professor
Department of Medicine
Division of Infectious Diseases
David Geffen School of Medicine, UCLA
Los Angeles, CA, United States

**Michele I. Morris**
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**Ban Hock Tan**
Senior Consultant
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Singapore General Hospital
Singapore

**Ligia C. Pierrotti**
ID Physician
Hospital das Clínicas
University of São Paulo
São Paulo, Brazil

香港會議展覽中心
Hong Kong Convention and Exhibition Centre

## Languages

The official language of the Conference will be English.

## Conference Evaluation

**Your opinion counts!** A conference evaluation form is available in your registration folder. **Please complete** and return to the registration desk at the end of the day on Thursday, August 18, 2016.

## Certificate of Attendance

Certificates of attendance are available in your registration envelope that was provided upon your arrival.

## TTS-TID Travel Awards

The Transplantation Society and Transplant Infectious Disease Section awarded travel grants to assist young investigators and members from emerging economies in attending the 10th International Transplant Infectious Disease Conference. The awards will be presented before lunch at the end of Session 2. Congratulations to this year's awardees.

- Heather Chambers, USA
- Luis Guzman-Vinasco, USA
- Olivier Marion, France
- Palash Mitra, Bangladesh
- Asma Nasim, Pakistan
- Maristela Pinheiro Freire, Brazil
- Igor Stoma, Belarus

# Conference Dinner Information

HULLETT HOUSE
海利公館

the 長廊 parlour

## Hullet House
## The Parlour (East Room)

**1881 Heritage, 2A Canton Rd**
**Hong Kong**

The Parlour offers one of Hong Kong's most refined locations for indulging in enticing cocktails or enjoying an elegant selection of all-day dining.

The Parlour has three distinctive rooms, where East and West meet with a colourful explosion. The walls of the East Room are decorated with beautiful hand-painted canvases depicting Victoria Harbour at the turn of the 19th Century, when sea-going vessels plied their trade, much as they do today.

**Tickets are available onsite for $75.00 USD** per person at TID Registration. Onsite tickets are limited quantity.

**NOTE:** A ferry is required to get to the Hullett House from Wan Chai Ferry Pier to Kowloon Point Ferry Piers. The ferry is a 15-minute walk from the HKCEC and the journey across is around 10 minutes. The fare is $5 HKD (roughly $0.65 USD).

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|---|---|---|
| 07:30–08:30 | Registration and Morning Coffee | S-221 Foyer |
| **08:30–08:40** | **Welcome Address**<br>***Dr. Michele I. Morris**, United States* | S-221 |
| **08:40–10:10** | **Session 1: Pre-Transplant Issues**<br>*Chair: Dr. Clarisse M. Machado, Brazil* | |
| 08:40–09:10 | 1.1: How I Evaluate Candidates for Transplant and When to Say "No" to Transplant<br>***Dr. Joanna M. Schaenman**, United States* | |
| 09:10–09:40 | 1.2: Managing HCV Infected Kidney Transplant Candidates - When to Treat?<br>***Prof. Nassim Kamar**, France* | |
| 09:40–10:10 | 1.3: Pre-Transplant Vaccines for Solid Organ and Stem Cell Candidates<br>***Dr. Clarisse M. Machado**, Brazil* | |
| 10:10–10:30 | **Coffee Break** | S-221 |
| **10:30–12:00** | **Session 2: Early Transplant Complications - The First 30 Days**<br>*Chair: Dr. Ban Hock Tan, Singapore* | S-221 |
| 10:30–11:00 | 2.1: Hepatitis B Prevention and Management<br>***Prof. Marina Berenguer**, Spain* | |
| 11:00–11:30 | 2.2: Invasive Mold Infection in the Era of Antifungal Prophylaxis<br>***Prof. Deborah Marriott**, Australia* | |
| 11:30–12:00 | 2.3: Managing Multidrug Resistant Organisms in HSCT and SOT<br>***Dr. Ban Hock Tan**, Singapore* | |
| **12:00–12:10** | **Awards: TTS-TID Travel Awards** | S-221 |
| 12:10–13:00 | **Lunch** | Covention Hall C - Level 1 |

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|---|---|---|
| **13:00–15:00** | **Session 3: Post-Transplant - Day 30 to Day 100**<br>*Chair: **Dr. Michael G, Ison**, United States* | **S-221** |
| 13:00–13:30 | 3.1: How I Diagnose and Treat Unusual Herpes Virus Infections Post-SOT and HSCT - HHV6/7 and HHV8<br>***Dr. Raymund R. Razonable**, United States* | |
| 13:30–14:00 | 3.2: How I Manage Respiratory Virus (HSCT and SOT Recipients)<br>***Dr. Michael G. Ison**, United States* | |
| 14:00–14:30 | 3.3: Post-Transplant Diarrhea in SOT and HSCT Scenario - Differential Diagnosis<br>***Prof. Diana Florescu**, United States* | |
| 14:30–15:00 | 3.4: How I Manage CMV Post-Transplant - Incorporating Immune Monitoring and Handling Antiviral Resistance<br>***Dr. Camille N. Kotton**, United States* | |
| 15:00–15:20 | **Coffee Break** | **S-221** |
| **15:20–16:50** | **Session 4: Post-Transplant - Late Complications/Hot Topics**<br>*Chair: **Dr. Hans H. Hirsch**, Switzerland* | **S-221** |
| 15:20–15:50 | 4.1: The Many Faces of Nontuberculous Mycobacteria - Cases in Solid Organ and Stem Cell Transplant<br>***Dr. Michele I. Morris**, United States* | |
| 15:50–16:20 | 4.2: Arbovirus Infections - Dengue, Chikungunya and Zika Viruses<br>***Prof. Ligia C. Pierotti,** Brazil* | |
| 16:20–16:50 | 4.3: Antiviral Pipeline - How We Will be Treating CMV, EBV, BK Virus 10 Years From Now<br>***Dr. Hans H. Hirsch**, Switzerland* | |
| **16:50–18:00** | **Session 5 : Exciting Cases in Transplant ID**<br>*Chair: **Dr. Michele I. Morris**, United States* | **S-221** |
| **19:30–22:00** | **Conference Dinner ($)** | **Hullett House - The Parlour (East Room)** |

# 08:40–10:10

## Session 1: Pre-Transplant Issues

### 1.1: How I Evaluate Candidates for Transplant and When to Say "No" to Transplant

**Joanna M. Schaenman, United States**
**Assistant Professor, Department of Medicine**
**Division of Infectious Diseases, David Geffen School of Medicine**
**UCLA, Los Angeles, CA**

This session will outline a strategy for evaluation of transplant candidates prior to transplantation.

**Learning Objectives:**

- Understand common pre-transplantation infections that can progress or reactivate after initiation of immune suppression
- Develop a strategy for transplant candidate evaluation including history, screening tests, and radiographic evaluation to evaluate potential infectious risks
- Understand situations in which risk for complications may outweigh potential benefits of transplantation

## 1.2: Managing HCV Infected Kidney Transplant Candidates - When to Treat?

**Nassim Kamar, France**
**Professor of Nephrology**
**Chief, Organ Trasplant Unit, Dept. of Nephrology & Organ Transplantation**
**Toulouse University Hospital, Toulouse**

Hepatitis C virus (HCV) infection is known to have a harmful effect after kidney transplantation. Patients' survival is significantly reduced in HCV-positive RNA-positive kidney-transplant patients compared to those not infected by HCV. Increased risk of death in HCV-infected patients is related to sepsis, post-transplant diabetes mellitus, cardiovascular disease, and liver disease. HCV infection was responsible for progressive liver fibrosis in a subgroup of kidney-transplant patients and cases of hepatocellular carcinoma have been reported. Grafts' survival is also significantly reduced in HCV-positive RNA-positive kidney-transplant patients compared to those not infected by HCV. Until now, there has been no efficient and safe therapy to eliminate HCV infection after kidney transplantation. Interferon-based anti-HCV therapy is relatively contraindicated in the setting of kidney transplantation because of the increased risk of acute rejection. Hence, it was recommended to treat all HCV-positive RNA-positive candidates for kidney transplantation after transplantation. However, since new-generation direct anti-viral agents (DAAs) were shown to be highly efficient for treating HCV infection in patients with impaired kidney function (including dialysis patients) and after kidney transplantation, nowadays the choice for treating candidates for kidney transplantation before or after transplantation depends on several factors: HCV genotype, living or deceased donor, high rate of HCV-positive donors… The different strategies will be discussed.

**Learning Objectives:**

- HCV infection can be treated before or after kidney transplantation
- DAAs are safe and efficient for treating HCV infection after kidney transplantation
- HCV-positive candidates for kidney transplantation can be offered a kidney allograft from an HCV-positive donor

## 1.3: Pre-Transplant Vaccines for Solid Organ and Stem Cell Candidates

**Clarisse M. Machado, Brazil**
**Chief of the Virology Laboratory, Institute of Tropical Medicine**
**University of São Paulo, São Paulo**

Vaccination is the most efficient and cost-effective intervention to prevent infectious diseases in healthy persons. Although pre-transplant vaccination has been recommended in SOT candidates, consensual protocols did not exist up to the end of the 90's. In the case of HSCT, some studies have demonstrated the benefit of pre-transplant vaccination. However, timing is a major obstacle, since the interval between pre-transplant assessment and transplantation may be too short, especially for vaccines with multiple doses.

In the setting of SOT, the majority of published studies are small and highly heterogeneous regarding to trial design, patient cohorts selected, inclusion criteria, dosing and vaccination schemes, follow up periods and outcomes. Thus, although the evidences for vaccination recommendations for SOT recipients remains poor, immunization protocols and vaccination program schedules should be reviewed before transplant to prevent serious complications caused by vaccine-preventable diseases.

**Learning Objectives:**

- Current recommendations for pre-transplant vaccination
- Safety and efficacy of pre-transplant vaccination
- Recent modifications in vaccination calendar

## 10:30–12:00

## Session 2: Early Transplant Complications - The First 30 Days

### 2.1: Hepatitis B Prevention and Management

**Marina Berenguer, Spain**
**Consultant Hepatology & Liver Transplantation**
**Professor of Medicine, Hepatology & Liver Transplantation Unit**
**La Fe University Hospital, Valencia**

Prior to the early 90s, and in the absence of any prophylaxis, survival for HBV was significantly lower than that achieved by other indications, and this was caused by HBV recurrence occuring in greater than 80% of cases. For this reason, HBV disease was considered a contra-indication for liver transplantation in many centers. In only ten years, hepatitis B has become a universally accepted indication with results similar to or even better than those obtained by patients transplanted for other indications. The first major advance was the introduction of hepatitis B immunoglobulins (HBIg) prophylaxis with an average risk decreased of HBV recurrence from 75% to 30%. More recently, the results have further improved, with the introduction of oral antivirals, such that the combination of HBIg with antivirals, has further reduced the rate of HBV recurrence to less than 10%. Despite the fact that current schedules of HBV prophylaxis are very effective, several strategies are being attempted to maximize the cost-benefit, particularly approaches to reduce and/or discontinue HBIG, considered a costly and cumbersome product.

**Learning Objectives:**

- To understand the role of hepatitis B immunoglobulins in the prevention of HBV recurrence after liver transplantation
- To discuss new HBIg-free strategies for the prevention of HBV recurrence following liver transplantation
- To describe current treatments for the prevention and treatment of HBV recurrence following liver transplantation

## 2.2: Invasive Mold Infection in the Era of Antifungal Prophylaxis

**Deborah Marriott, Australia**
**Senior Specialist, Clinical Microbiology & Infectious Diseases**
**St. Vincent's Hospital, Sydney**

IFI in the era of antifungal prophylaxis' implies a uniform implementation of antifungal prophylaxis in solid organ transplant recipients. However there is considerable heterogeneity in practice based on a number of factors including:

- Type of organ transplanted
- Local fungal epidemiology
- The incidence of IFI
- Prior fungal colonization
- Individual risk factors – rejection, CMV infection, hypogammaglobulinaemia

Antifungal prophylaxis choices include:

- No prophylaxis
- Yeast-active agent
- Mould-active agent
- i-v, oral or nebulized route

Strategies include:

- Universal prophylaxis
  (all transplant recipients receive antifungal prophylaxis)
- Pre-emptive therapy (antifungal therapy commenced following the isolation of a fungus with no evidence of invasive disease)

The choice of strategy will have a significant impact of the nature and type of IFI that occurs. The timely use of diagnostic techniques such as Aspergillus PCR and the detection of galactomannan allows the implementation of targeted pre-emptive therapy and therefore reduces overall antifungal exposure. However the utility of biomarkers for screening has yet to be confirmed in the solid organ transplant setting

Widespread implementation of antifungal prophylaxis comes at a price. Drug interactions, medication toxicity, financial cost and the emergence of resistant strains of yeast and moulds need to be weighed against the potential reduction in IFI. If azole antifungal therapy is administered there is general agreement that therapeutic drug monitoring is an important component of optimal patient management and should be available in real time to have an impact on dosing decision making.

**Learning Objectives:**

- The appropriate antifungal prophylaxis choice – universal vs. pre-emptive therapy – is yet to be determined
- The choice of antifungal agent depends on a number of factors which must be taken into consideration
- Biomarker diagnostics have not been well validated in the solid organ transplant setting
- The widespread use on antifungal agents alters the epidemiology and susceptibility of infecting organisms

## 2.3: Managing Multidrug Resistant Organisms in HSCT and SOT

**Ban Hock Tan, Singapore**
**Senior Consultant, Dept. Infectious Diseases**
**Singapore General Hospital**

Because much is already known about MRSA and VRE in transplant recipients, this talk will focus on carbepenem-resistant Enterobacteriaceae (CRE) and (time permitting) other extremely drug-resistant (XDR) gram-negatives. Published experience in the treatment of serious CRE infections suggests that antibiotic combinations may be associated with improved outcomes, but a strict analysis of these non-randomized studies has categorized them as "low quality" evidence. In addition to these data, the talk will also touch on the in vitro data (promising!), the role that newer agents such as ceftazidime-avibactam could play (promising but limited), and the small but increasing number of publications hinting at the value of mandatory screening.

**Learning Objectives:**

- Be able to quote the literature supporting combination antibiotics for the treatment of CRE, and understand their limitations
- Appreciate the role that newer agents (eg, ceftazidime-avibactam) could play in CRE treatment
- Be able to discuss the potential value of CRE screening in transplant candidates and recipients

## 13:00–15:00

## Session 3: Post-Transplant - Day 30 to Day 100

### 3.1: How I Diagnose and Treat Unusual Herpes Virus Infections Post-SOT and HSCT - HHV6/7 and HHV8

**Raymund R. Razonable, United States**
**Professor of Medicine, Division of Infectious Diseases**
**Mayo Clinic, Rochester, MN**

Human herpesviruses 6 and 7 commonly reactivates after solid organ and hematopoietic stem cell transplantation, and cause clinical symptoms in a minority of patients. Fever and neurologic symptoms have been reported to be caused by HHV-6 infection, especially after hematopoietic stem cell transplantation. On the other hand, human herpes virus 8 may cause malignant Kaposi's sarcoma and lymphomas during the post-transplant period, especially among patients who have epidemiologic exposures. Diagnosis and treatment of these herpesvirus-associated diseases will be reviewed and discussed.

**Learning Objectives:**

- Discuss the epidemiology of human herpes viruses 6, 7 and 8 after transplantation
- Understand the laboratory methods for the diagnosis of human herpesviruses 6, 7 and 8 after transplantation
- Review the treatment options for clinical diseases caused by human herpes viruses 6, 7 and 8 after transplantation

## 3.2: How I Manage Respiratory Virus (HSCT and SOT Recipients)

**Michael G. Ison, United States**
**Associate Professor, Divisions of Infectious Diseases & Organ Transplantation**
**Northwestern University, Feinberg School of Medicine, Chicago, IL**

In this talk, I will discuss the options for the prevention and treatment of respiratory viral infections in SOT and HSCT recipients.

**Learning Objectives:**

- To understand the efficacy and safety of vaccination and antiviral medication for the prevention of influenza
- To define the optimal dose, duration and route of antiviral therapy for transplant patients with influenza
- To explain the options for treatment of RSV in SOT and HSCT patients

## 3.3: Post-Transplant Diarrhea in SOT and HSCT Scenario - Differential Diagnosis

**Diana Florescu, United States**
**Associate Professor, Internal Medicine Division of Infectious Disease**
**Dept. of Internal Medicine, University of Nebraska Medical Center, Omaha, NE**

**Learning Objectives:**

- Overview of epidemiology of diarrhea
- Focus on C difficile
- Focus on Norovirusa

## 3.4: How I Manage CMV Post-Transplant - Incorporating Immune Monitoring and Handling Antiviral Resistance

**Camille N. Kotton, United States**
**Clinical Director, Transplant & Immunocompromised Host Infectious Diseases**
**Infectious Diseases Division**
**Massachusetts General Hospital, Harvard Medical School, Boston, MA**

CMV is the most common infection after solid organ transplantation. Through optimal method of prevention, diagnosis and treatment of CMV, overall outcomes can be significantly enhanced. Guidelines have been developed that encourage best practices, which will be reviewed. In recent years, multiple new agents with activity against CMV have appeared on the horizon, and their role in management of transplant patients will be mentioned. In addition, novel diagnostics may help manage complex patients. Advances in the field, as well as novel concepts and expert opinions, will be covered in this talk.

**Learning Objectives:**

- Understand the differences and nuances among various viral load diagnostics, including use of the international standard for CMV load testing
- Appreciate various methods of prevention including universial prophylaxis, preemptive therapy and a hybrid approach
- Consider the potential for cellular immune assays and their impact on prevention, treatment and overall outcomes
- Interpret clinical resistance of CMV to antiviral therapy and proceed with best approaches to management

## 15:20–16:50

## Session 4: Post-Transplant - Late Complications/Hot Topics

### 4.1: The Many Faces of Nontuberculous Mycobacteria - Cases in Solid Organ and Stem Cell Transplant

**Michele I. Morris, United States**
**Associate Professor, Clinical Medicine**
**Director, Immunocompromised Host Section, Division of Infectious Diseases**
**University of Miami, Miller School of Medicine, Miami, FL**

Nontuberculous mycobacteria (NTM) are increasingly important pathogens infecting the immunocompromised transplant population. NTM are ubiquitous in the environment where they can be found in water, dust, and soil. Although there are over 160 identified species, only a few appear to cause most human infections. Susceptibility profiles vary among and within species. NTM can cause localized infection, often involving the lungs or the skin, as well as disseminated infections. Infection can occur through a primary exposure post transplant, as well as reactivation in a recipient who was colonized or infected prior to transplantation. In addition, nosocomial infections can occur, and donor-derived NTM infections are possible.

This case-based presentation will review the challenges of diagnosing and treating NTM infections in transplant candidates and recipients. The potential impact of NTM infection on patient and allograft survival will be reviewed, and recommendations for improving outcomes will be shared.

**Learning Objectives:**

- Understand the epidemiology and risk factors associated with non-tuberculous mycobacterial infections, including transplant type, potential exposures, and immune deficits
- Review the diagnostic challenges associated with non-tuberculous mycobacterial infections, and the importance of a species-specific diagnosis in formulating a treatment plan
- Understand the management of non-tuberculous mycobacterial infections in immunocompromised transplant candidates and recipients, including medication options and associated toxicity

## 4.2: Arbovirus Infections - Dengue, Chikungunya and Zika Viruses

**Ligia C. Pierotti, Brazil**
**ID Physician**
**Hospital das Clínicas, University of São Paulo, São Paulo**

Arboviruses continuing to emerge and re-emerge, causing numerous outbreaks with global distribution, not limited to tropical or developing countries. In this lecture, the most relevant challenges of Dengue virus (DENV), chikungunya virus (CHIKV) and zika virus (ZIKV) will be review. This talk will up to date of epidemiological scenario in the world, the clinical presentation and management of these disease, the current available laboratory diagnosis support and its limitation, and the prevention strategies, including the discussion about the potential risk of transmission from donor organ and tissue grafts.

**Learning Objectives:**

- To review the epidemiology of dengue, chikungunya, and zika virus
- To outline the clinical manifestation and overlapping clinical picture of these arboviroses
- To emphasize the need to laboratory diagnosis support and the current practical limitations
- To discuss the impact of the arboviroses in the solid organ transplant activity in endemic countrie and review the recommended pre-transplant evaluation

## 4.3: Antiviral Pipeline - How We Will be Treating CMV, EBV, BK Virus 10 Years From Now

**Hans H. Hirsch, Switzerland**
**Director Div. Infection Diagnostics**
**Director of Research Transplantation & Clinical Virology**
**Department Biomedicine, University of Basel, Basel**

Infections remain a significant challenge to the outcome of transplantation (1, 2). Although transplantation medicine has witnessed improved outcomes due to the art of transplant infectious disease (TID) fostering better diagnosis and delivery of prophylactic, preemptive and therapeutic interventions (3), viral infections remain a significant challenge (4). Although different viruses differ in their intrinsic and situational pathogenic potential, the principle denominator is the obligatory intracellular phase of viral replication reprogramming the host cell metabolism and rendering the recognition of "non-self" and "self" less distinct in the allogeneic transplantation (4, 5). Thereby, key deficiencies become exquisitely prominent in transplantation and clinical virology:

1. Lack of effective immune recognition in immunosuppressed patients: whereby anti-donor immunity and higher HLA-mismatches needing more immunosuppressive intensity escalate viral immune escape.
2. Lack of antiviral drugs with high selectivity, little toxicity, and high efficacy: whereby the rapid viral replication kinetics with one and more generations per day and lack of immune control result in emergence of drug-resistant variants.
3. Lack of effective vaccines and vaccine combinations pre- and post-transplant: whereby humoral and cellular immunity is restored in an allogeneic context without precipitating immunopathology or rejection.

**Learning Objectives:**

- Review the current key strategies of CMV, BKPyV, and EBV in TID
- Identify the deficiencies of the current strategies
- Point out current research approaches and clinical studies aiming at improving the management of these viruses post-transplant
- Conclude with what we develop and hence expect for an optimal treatment of CMV. BKPyV, and EBV in 10 years from now

# Notes

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AUGUST 18–23

# TTS 2018

27th International Congress of

**The Transplantation Society**

The Transplantation Society

SAVE the DATE!