



Current Topics in Histocompatibility & Transplantation

A Unique Continuing Education Opportunity

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2023 Teleconference Series



An ACHI Approved Continuing Education Program

Sponsored by
Sandra Rosen-Bronson, PhD, F(ACHI)
Georgetown University
Washington, DC

Current Topics in Histocompatibility and Transplantation for Technologists

This series of twenty interactive lectures, moderated by Dr. Sandra Rosen-Bronson, will reach hundreds of individuals through real-time, ninety minute in-depth audio conferences involving organizations and people from around the world. Without ever leaving your laboratory or office, you can listen to expert scientists and key decision makers thousands of miles away. Additionally, you can ask questions and get immediate answers, as well as listen to other participants' questions. This convenient and cost-effective educational tool will allow you to keep current in the field of histocompatibility testing and transplantation. Each participant will earn ABHI Continuing Education Credit (CEC) equal to 1.5 contact hours or 0.225 CE credits per lecture.

Frequently Asked Questions

How Does a Teleconference Work? Three to five days before each lecture, all teleconference materials are sent to your site coordinator on a CD via FedEx or by email. The materials will include: the lecture slides in two file formats (PowerPoint and PDF), handouts as a PDF file, and detailed conference instructions. At the scheduled time on the day of the lecture, your site must call the telephone number provided in the instructions. U.S. participants receive a toll-free telephone number. International participants may incur additional telephone charges.

All teleconferences are scheduled to start at 1:00 P.M. (Eastern Time) on Tuesdays and last approximately ninety minutes. Once the teleconference has begun, participants view the slide show as they listen to the lecturer. There will be an opportunity to participate in a question and answer sessions.

What If the CD Doesn't Work Properly? If the CD you receive does not function properly, it will be replaced at no charge. As soon as you receive your conference packet, please verify that the CD contains the correct files and it is compatible with your computer system. If you experience any difficulty with the CD or have a problem opening the files, contact us immediately.

What If We Haven't Received the Packet? If you do not receive your conference materials by Tuesday morning, please contact us as soon as possible so that we can provide you with them.

How Do We Register? Send the completed registration form via mail, email or fax. If you forward your registration to your Purchasing Department for processing, please make sure that a copy of the registration form is also sent to us. Checks must be made payable to Georgetown University and sent to the **EXACT NAME and one of the ADDRESSES below:**

U.S. Mail:

Attn: Sandra Rosen-Bronson
Georgetown University
Box 571438
Washington, DC 20057-1438

Overnight Courier:

Attn: Sandra Rosen-Bronson
Georgetown University
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Washington, DC 20007

Further Questions: If you have any questions, please visit our website at www.ctht.info or contact us.

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Thank you for your participation in our program!

2023 Teleconference Schedule

All dates are Tuesdays and all lectures begin at 1:00 P.M. (Eastern Time)

June 20, 2023

Current Donor Selection Strategies for Allogeneic Hematopoietic Cell Transplantation

presented by Olga Timofeeva, PhD, F(ACHI)
MedStar Georgetown University Hospital, Washington, DC

Participants will hear a review of recent studies that are guiding current practice. They will learn about important considerations for selecting an optimal donor for patients in need of an allogeneic hematopoietic cell transplant.

July 18, 2023

Molecular Biology Basics for the HLA Technologist

presented by Carolyn Hurley, PhD, F(ACHI)
Professor Emeritus, Georgetown University, Washington, DC

Participants will learn about essential molecular biology tools and concepts used in DNA-based HLA typing methods. The discussion will include topics such as denaturation, annealing, and extension in PCR amplification as well as the difference between probes and primers, how they are designed, and how they are used in HLA typing methods.

August 15, 2023

Virtual and Reality: A Close Look at the UCLA Virtual Crossmatch Exchange Results

presented by Jennifer Q. Zhang, PhD, F(ACHI)
UCLA Immunogenetics Center, David Geffen School of Medicine at UCLA, Los Angeles, CA

Participants will learn about the results of UCLA's Virtual Crossmatch Exchange (VXM) survey. This survey was designed to understand factors that influence the variability of VXM predictions in the presence of HLA donor-specific antibody (DSA).

August 22, 2023

HLA Loss Relapse in HCT Recipients: Insights from Immunobiology

presented by Esteban Arrieta-Bolanos, PhD
University Hospital Essen-Institute for Experimental Cellular Therapy, Essen, Germany

Multicenter studies have demonstrated that HLA loss is a significant mechanism of immune evasion causing post-transplantation relapse following mismatched allogeneic hematopoietic cell transplant (HCT). Participants will learn about potential mechanisms leading to HLA loss as well as possible strategies for prevention and future donor selection.

August 29, 2023

Reducing Serum Background in Solid Phase Antibody Assays

presented by Maneesh Misra, PhD, F(ACHI), University of Chicago Medicine, Chicago, IL

Luminex-based solid phase antibody assays have become the gold standard for HLA antibody detection and characterization. Some patient sera, however, display non-specific bead reactivity, including the bead without HLA antibody (NC bead) utilized in the assay. The elevation of mean fluorescence intensity (MFI) values hinders accurate identification and characterization of HLA antibodies. Participants will hear about a study that compared different methods for reducing nonspecific background including: a combined Spherotech™-EDTA method, One Lambda AdsorbOut™, and Lifecodes Serum Cleaner.

September 12, 2023

The Role of Duffy Blood Group Antigens in Renal Transplant and Rejection

presented by Reut Hod Dvorai, PhD, F(ACHI)
SUNY Upstate Medical University, Syracuse, NY

African American patients demonstrate higher rates of acute allograft rejection and lower kidney-graft survival compared with white patients. The Duffy antigen, also known as the Duffy Antigen Receptor for Chemokines (DARC), is expressed on red blood cells as well as renal endothelial cells and has been suggested to have an anti-inflammatory role by acting as a “chemokine sink.” Participants will learn how differences in Duffy antigen phenotypes between African American and White patients may be associated with differential allograft survival.

October 3, 2023

HCT Donor Selection: To Match or Mismatch

presented by Maria Bettinotti, PhD, F(ACHI), Johns Hopkins University, Baltimore, MD

Hematopoietic Cell Transplantation (HCT) is a long-term form of immunotherapy for hematologic malignant diseases, with the donor’s immune cells controlling residual malignant cells through recognition of non-self targets: the graft versus tumor (GVT) effect. With the introduction of post-transplant, cyclophosphamide (PT-Cy) for graft-versus-host disease (GVHD) prophylaxis, hematopoietic cell transplant has expanded to include more extensively HLA mismatched donors and lead to a changing paradigm concerning optimal donor selection. Participants will learn how through careful donor selection, HLA mismatches may be turned from liabilities into assets by augmenting the GVT response.

October 10, 2023

Overcoming the Prozone Effect in Solid Phase Antibody Assays

presented by Maneesh Misra, PhD, F(ACHI), University of Chicago Medicine, Chicago, IL

A serious limitation of solid-phase human leukocyte antigen (HLA) antibody assays is the falsely low or negative result of samples with high-titer antibodies, a phenomenon known as the prozone effect. Participants will hear about a study that compared the efficacy of ethylenediaminetetraacetic acid (EDTA) and dithiothreitol (DTT) treatment of serum samples in overcoming the prozone effect.

October 24, 2023

HLA Antibody Analysis: Back to the Basics

presented by Julie Houp, CHS (ACHI)
University of Alabama at Birmingham, Birmingham, AL

In this novice level presentation, participants will learn basic guidelines for antibody analysis. Participants will learn how an understanding of concepts such as cross-reactive groups (CREG), shared epitopes, and HLA class I and class II associations can aid in accurate antibody analysis. They will also hear about the importance of understanding assay controls as well as utilizing available data such as the recipient’s HLA type, sensitization history, and antibody history during analysis.

October 31, 2023

**Acute GVHD in a Solid Organ Transplant Patient in the
Absence of Peripheral Blood Chimerism**

presented by Peter Lalli, PhD, F(ACHI), Carolinas Health System, Huntersville, NC

Graft-versus-host disease (GVHD) is an uncommon, but potentially serious, complication after solid organ transplantation. Through case studies, participants will learn what GVHD is and how it occurs in solid organ transplant recipients. They will also hear about how it is diagnosed and treated, along with HLA related risk factors that may contribute to its development.

November 7, 2023

DQA5-DQB2: Is it Me? or is it You!

presented by Jeffrey Kiernan, PhD, F(ACHI)

Regional Histocompatibility Laboratory University Health Networks, Toronto, ON, Canada

Many advances in transplant medicine over the past decade have been made possible through single antigen bead assays for HLA antibody characterization. It must be understood, however, that these assays are not perfect. Through case studies, participants will hear about examples of problems such as false positive, and false negative, bead reactivity. The speaker will also explore possible molecular mechanisms behind such confounding results, and how best to deal with them clinically.

November 21, 2023

Modeling HLA Antigenicity to Inform Virtual Crossmatch

presented by Loren Gragert, PhD, Tulane University School of Medicine, New Orleans, LA

Organ allocation systems primarily utilize serologic HLA antigen specificities to determine which donors are offered to transplant candidates. Virtual crossmatch assesses which offers are HLA-compatible based on molecular typing and antibody assay data using several resources, such as the HLA Dictionary, eplet analysis, sequence alignments, and proposed expanded serotype definitions based on amino acid residues that are predicted to determine epitopes. This talk will discuss the current state-of-the-art methods and datasets for modeling HLA antigenicity to inform virtual crossmatch.

November 28, 2023

The HLA Laboratory's Role in Supporting Platelet Transfusion Refractory Patients

presented by Dong Li, MD, F(ACHI)

MedStar Georgetown University Hospital, Washington, DC

This lecture will review the causes and pathophysiology of platelet refractoriness. Participants will learn about the Corrected Count Increment (CCI)" calculation and how it can be used to distinguish between immune and non-immune causes. The speaker will use sample cases to demonstrate how the HLA laboratory can assist with platelet transfusion support by selecting platelet donors that minimize the potential for additional sensitization.

December 5, 2023

Laboratory Methods for the Detection of HLA Loss in Hematopoietic Cell Transplant Recipients

presented by Paula Arnold, PhD, F(ACHI), St. Jude Children's Research Hospital, Memphis, TN

Multiple studies have highlighted the importance of routine testing for genomic HLA loss in patients who relapse post HLA-mismatched HCT for quick decisions regarding the most appropriate therapies, alternative donor selection for rescue HCT, or perhaps opportunities for targeted cell therapies. Participants will learn about the laboratory methods commonly used for the detection of HLA loss.

December 12, 2023

Allele-Specific Solvent-Accessible Amino Acid Mismatches Are Correlated with Immunizer-Specific HLA Antibodies After Kidney Transplantation or Pregnancy

presented by Matthias Niemann, MS, PIRCHE AG, Berlin, Germany

It is known that in solid organ transplant, molecular matching is more accurate than antigen matching for predicting the development of post-transplant donor specific antibodies (DSA). Although epitope matching between donor and recipient appears beneficial for the avoidance of DSA, accurately defining surface epitopes remains challenging and the underlying concepts are not fully understood. Participants will learn about a new computational deep-learning pipeline designed to define HLA Class I allele-specific surface residues that are solvent-accessible and potentially correlated with DSA development.

January 9, 2024

Calculating Epitope Immunogenicity Through De Novo Donor-Specific Antibody Targets in Renal Transplantation

presented by Jenny Tran, PhD, University of British Columbia, Vancouver, BC, Canada

It has been shown that B cell epitope mismatches are associated with adverse transplant outcomes, and in addition, it has been hypothesized that different epitopes may have varying propensities to generate an immune response. During this lecture participants will learn about studies aimed at defining epitope immunogenicity by calculating the ability of mismatched epitopes to generate antibodies in renal transplant recipients with de novo donor-specific antibodies.

January 23, 2024

The Case of the Deceased Donor with Too Many HLA Alleles

presented by Matthew Cusick, PhD, F(ACHI)
University of Michigan Medicine, Ann Arbor, MI

Participants will learn about a challenging deceased donor case in which a genetic abnormality involving a potential fusion of two zygotes (“reverse twinning” or amalgamation of independent embryos) lead to an individual with four HLA haplotypes.

January 30, 2024

Imputation of Complete High Resolution HLA Types Using HaploStats

presented by Abeer Madbouly, PhD, and Martin Maiers, MS, Bioinformatics Research,
National Marrow Donor Program, Minneapolis, MN

Accurate assessment of donor/recipient compatibility is often complicated by the availability of only low resolution and/or partial HLA typing information on the donor. HaploStats is a tool developed by the National Marrow Donor Program’s Bioinformatics group for accessing frequency information for haplotypes and haplotype pairs relative to specific HLA types found in the U.S. population. Participants will learn how, if used correctly, HaploStats can frequently accurately predict high resolution HLA-A, B, C, DR, and DQ typing based on partial low resolution typing. They will also hear a preview of a new improved tool that is currently being developed.

February 6, 2024

Characterization of Donor Specific Antibodies Following Solid Organ Transplant

presented by Matthew Najor, PhD, F(ACHI)
University of Michigan Medicine, Ann Arbor, MI

Accurate determination of the true presence or absence of donor specific antibodies (DSA) can be complicated but it is critical to facilitate appropriate clinical treatment of a recipient post-transplant. Participants will learn about the importance of monitoring DSA using multiple assay platforms, analysis of shared epitope reactivity, dilution studies, and more.

February 13, 2024

DRB1 Dominance in the Immunoepitome of Activated Macrophages

presented by Hooman Yari, PhD
University of Oklahoma Health Sciences Center, Oklahoma City, OK

The HLA-DR15 haplotype is associated with autoimmune disease and characterization of the self-peptides presented by HLA-DR15 molecules is important for the development of new immune therapies for associated autoimmune diseases. Participants will hear about studies aimed at identifying the antigen presentation profile of different cell types.



2023

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