Mid-Atlantic Association of Blood Banks MAABB

INFUSION

Fall 2006
www.maabb.org

President's Message:

My Fellow Members and Colleagues,

The Annual Meeting program (The Brave New World of Blood Banking) and plans are well under way, a tribute to the board members who have worked diligently to secure topics and speakers for the April 19 & 20 meeting in Williamsburg, VA. The board and chair members: Janet Cass-Baxter, Judy Sullivan, Kathy Angel, Michele C. Hunt, Patty Schwaninger, Leslie Allshouse, Jo Proctor, Laura A. Walser, Vickie Greco, Darla Chambers, Wendy Paul, Betsy Furlong, Lorraine Caruccio and many others vow to work together to provide you with programs that will hopefully interest and benefit all.

At the annual meeting we would like to remember Charles Walter, the man that helped to make MAABB a reality. We are looking for individuals with stories, pictures, and memorabilia that they would like to share with us at that meeting. Please let me know if you can help. langebea@gunet.georgetown.edu .

Infusion, our Newsletter, is getting help. Walter Cancel (Supervisor, Union Memorial Hospital Blood Bank, Baltimore) has agreed to become Infusion's new Editor in 2007. A Very Big thank you to Mike Passwater, who has done an outstanding job for the past several years. Walter will transition into this exciting new adventure over the next year. We are still looking for more individuals to help Walter continue this publication, and to help support the www.maabb.org website. Please welcome Walter Cancel to the Infusion team at: Walter.cancel@medstar.net .

Look forward to seeing you in Williamsburg, VA, next April 19 & 20th. Have a great fall and Holiday Season.

All the best,

Albert Langeberg
MAABB President 2006-2007

Our Mission

It is the goal of the MAABB to become the most effective state/regional association of blood banks. This Association serves the Mid-Atlantic region for continuing professional education in the medical, scientific, technical and administrative aspects of blood banking and transfusion medicine.

Inside this Issue

Editor's Note

Welcome to the Fall Issue of Infusion!

After much humiliation and frustrating practice, I can now sit in my family room and impress myself with my ability to reproducibly use my own TV – without requiring assistance from my younger son. Sure, he is still much faster and has a broader skill set. In fact, my biggest challenge these days is to keep his shows from interrupting mine – even when he is 250 miles away. He gets the concept of making technology work for him. I am also just beginning to get my mind around being able to push a button on a touch screen, then make a few mouse clicks 45 minutes later and claim I did a dozen Type and Screens. And just as I begin to celebrate the great advance of automated immunohematology testing, a salesman shows me a slide containing an astounding number of micro-array chips for molecular HLA and RBC antigen testing on it. How long will it be before I tell students about the days of walking up hill in the snow, both ways, to work where I centrifuged and resuspended test tubes *with my own hands*...? What an exciting time to be alive – and to be working in Transfusion Medicine!

But I am also reminded of the old saying that the only people who like change are wet babies. Confusion, frustration, anger, acid-reflux, burn-out, false promises, and fear compete with the excitement and promise of progress.

Just as the dropping temperatures and dryer conditions of fall produce spectacular autumn landscapes, teamwork and resilience during challenging situations can produce exciting, wondrous work environments and societies.
Thanks for being a vibrant part of MAABB.

Wishing you a colorful autumn,
Mike

Discussion:

Irradiation Matters

Avoiding TA-GVHD: *What's Your Strategy?*

Background

Transfusion associated graft versus host disease (TA-GVHD) is a rare, but almost always fatal complication of transfusing cellular blood components (red blood cells and platelet products). For TA-GVHD to occur, the blood product (graft) must contain an adequate number of viable T-cells, and the transfusion recipient (host) must be immunocompromised (lack an adequate number of functional T-cells) or have adequate HLA haplotype similarity between the blood product and the recipient. The exact parameters defining "adequate" for the above three (3) risk factors are not known. It is known that nonirradiated, leukoreduced cellular products have caused TA-GVHD. These products are presumed to have contained less than 106 white blood cells (<500,000 lymphocytes). It is also known that cellular blood products homozygous for HLA haplotypes for which recipients are heterozygous have caused TA-GVHD in apparently immunocompetent individuals. For example, an HLA A1,2 recipient will not recognize HLA A1 donor cells as foreign, but the HLA A1 donor cells may recognize the HLA A1,2 recipient as foreign and attack the recipient's cells. The degree of HLA antigen sharing required for TA-GVHD is not known, and may vary with both the number of viable T-cells in the blood product, and the immune status of the recipient.

The only established mechanism of preventing TA-GVHD is to expose the blood product to enough ionizing radiation to disrupt the T-cells' DNA so they cannot multiply. Pathogen inactivation treatments which disrupt DNA and RNA also may prove effective for the prevention of TA-GVHD, but are not yet approved for this purpose. The FDA has approved gamma ray devices utilizing cesium-137 (^{137}Cs) or cobalt-60 (^{60}Co) sources, and x-ray devices for the prevention of TA-GVHD. The device must deliver at least 25Gy to the midplane, and at least 15Gy to all portions of the blood product (1Gy = 100cGy = 100 RAD). Some transfusion medicine experts recommend the delivery of 30Gy to the midplane, and at least 20Gy to all portions of the blood product. (These levels of radiation do not damage pathogen DNA or RNA enough to render the product sterile, but do prevent T-cell proliferation.)

While treating blood products with the recommended dose of ionizing radiation is an effective prevention strategy for TA-GVHD, it does negatively impact the quality of red cell products. RBC membrane damage leads to the increased accumulation of extracellular potassium and hemoglobin in the product. RBC ATP levels also decline more rapidly. Therefore, the expiration date of irradiated RBC products is limited to 28 days, not to exceed the original expiration date of the unit. Extracellular potassium is especially of concern to facilities providing large volume transfusions to pediatric patients. Many of these facilities further restrict the expiration date of irradiated RBC products for pediatric patients. If not transfused within the specified time (e.g. 6 hours, 5 days, 10 days) the units may be discarded, washed, or converted to the "adult" inventory. Studies have suggested platelets remain functional after exposures up to 50Gy. Additional considerations complicating the provision of irradiated blood products include the cost of ionizing radiation devices, the administrative and structural challenges to comply with FDA, NRC, OSHA, and Homeland Security regulations, and increased processing times (typically 2.5 – 10 minutes per radiation cycle).

TA-GVHD Incidence

Major medical centers in Japan implemented universal irradiation of cellular blood components following a review which included 122 cases of TA-GVHD involving immunocompetent patients. Nearly two-thirds of these cases involved units less than 72 hours old. It is also noteworthy that the homogeneity of HLA haplotypes in Japan is much greater than in the United States. Nonetheless, a retrospective review of transfusions during a ten (10) year period at the American University of Beruit Medical Center identified ten (10) cases of fatal TA-GVHD. These cases all involved randomly selected, "fresh", nonleukoreduced, nonirradiated blood products and apparently immunocompetent recipients. Two (2) cases of fatal TA-GVHD in apparently immunocompetent patients in the United States have been published. One case involved a platelet transfusion, and the other involved a six (6) day old, nonirradiated, nonleukoreduced RBC unit.

TA-GVHD Prevention Strategies

Given the three factors involved in predisposing a patient to TA-GVHD, the 24th edition of AABB Standards requires the irradiation of:

1) Cellular products from blood relatives
2) Platelet products selected by HLA typing or crossmatching
3) Cellular blood products transfused to patients known to be at risk for TA-GVHD.

In order to comply with AABB Standards and prevent TA-GVHD, prevention strategies in the greater Mid-Atlantic region include various combinations of the following:

- Individual case review for each patient
- Irradiating cellular products for all patients in a selected age range (e.g. <4 months, <1 year, or <6 years old)
- Irradiating cellular products for all patients with a selected diagnosis or diagnosis group (e.g. ALL, DiGeorge's Syndrome; any type of lymphoma or leukemia, any congenital immune deficiency)
- Irradiating cellular products for subsets of patients with a selected diagnosis (e.g. all malignancy patients with absolute lymphocyte counts <500)
- Irradiating cellular products for patients receiving selected treatments (e.g. all hematopoetic progenitor cell transplant recipients, all patients receiving nucleoside analog therapy, all neonatal and intrauterine exchange transfusions)
- Irradiating all HLA matched and crossmatched Platelet products
- Irradiating all Granulocyte products"
- Irradiating all Directed Donation cellular products
- Irradiating all Platelet products
- Irradiating all RBC and Platelet products (universal irradiation)

The size of a facility, the patient population treated at the facility, staffing levels, and the sophistication and reliability of communication systems between patient care teams and the transfusion service all influence each facility's approach to preventing TA-GVHD. The location of the nearest approved radiation device, sterile connecting device, and "cell washers" further impacts the handling of irradiated units for infants.

It is hoped that the sharing of prevention strategies, and continued research into causes and treatments, will erase TA-GVHD from the list of fatal transfusion complications.

MEP

References & Further Reading

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- Moroff G, Luban NLC. “The irradiation of blood and blood components to prevent graft-versus-host disease: technical issues and guidelines. Transfusion Medicine 1997; 11:15-26.
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Mark Your Calendars for 2007!

2007 MAABB Annual Meeting and Seminar

"Blood Banking's Brave New Frontiers"

April 19-20

Williamsburg, VA

Host Hotel:

Holiday Inn Patriot Hotel & Conference Center
3032 Richmond Rd
Williamsburg, VA 23185
1-800-446-6001

MAABB 2007
Annual Meeting
Sponsor/Exhibitor Information

The 2007 Exhibit Hall is designed for maximum attendee traffic and interaction! Sponsorships are also available to provide additional recognition for your company and their commitment to the blood banking and transfusion medicine/ cellular therapies industry.

Contact Karla Darnall, MAABB Management, (303) 238-0685 or via email at khdarnall @etceteraevents.com and ask for the Exhibitor/Sponsor Prospectus which includes full details on sponsorships, advertising, and exhibit booth specifics and deadlines. The deadline to return the completed Exhibitor/Sponsor Agreement is December 15, 2006 to insure priority booth placement. Exhibit space and Sponsorships are limited and will be confirmed on a first come, first served basis.

Visit www.maabb.org often for the latest on the 2007 Annual Meeting & Seminar program.

Call for 2007 Award Nominations

The Charles E. Walter Memorial Award
Presented to a Mid-Atlantic Association of Blood Banks member who has contributed in an exceptional manner to the field as a blood banker, donor recruiter, immunohematologist or teacher. Candidates for this award must be members in good standing and must reside or be employed (currently or at some previous time) within the MAABB region.

The Mary C. Doerr Meritorious Service Award
Presented to a Mid-Atlantic Association of Blood Banks member who has demonstrated outstanding service to the Association. Outstanding service may be shown by longstanding participation on the board of directors or a recognized committee, or by sustained support of the association at the regional level. Candidates must have been members for at least three years and reside or be employed within the MAABB region.

The Cindy Oliver Award
Presented to an individual who has contributed in an extraordinary way to the success of the Mid-Atlantic Association of Blood Banks. Recipients of this award are recognized for a contribution, landmark event, or new endeavor that helps sustain the association or promotes its growth and prosperity. Candidates not required to be members or reside within MAABB region.

I nominate **Name:** _____
Address: _____
_____
Phone/Email:_____/_____

for the following award (check one)
__ **Charles E. Walter Memorial Award**
__ **Mary C. Doerr Meritorious Service Award**
__ **Cindy Oliver Award**

Description of individual's accomplishments and/or service that qualify him/her for the award:

_____

_____

_____

_____

_____

_____

Return completed form by Jan 28, 2007 to:
Your name: _____
Address: _____
_____
Phone/Email:_____/_____

MAABB Award Nomination
P.O. Box 9374
Silver Spring, MD 20916-9374

Signature: _____

Scholarships:

Scholarship Information

Susan L. Wilkinson Student Scholarship

MAABB is again offering local students the chance to win the Susan L. Wilkinson Student Scholarship. This scholarship will be awarded as a $500 sum to an individual enrolled in a Medical Technology (MT) or Specialist in Blood Banking (SBB) program (or who has graduated within the last 18 months from such a program), and is used to promote an interest in research, development, and continuing education in the field of blood banking. If you would like to apply for the scholarship, check out the scholarship info at www.maabb.org and submit an application to the address at the bottom of the form. The scholarship award will be presented at the 2007 Annual Meeting in Williamsburg on April 19, 2007.

United States Legacy Scholarship

Dade Behring is expanding its $1,250,000 scholarship program to include the United States Legacy Scholarship. Five US Legacy Scholarships of $5,000 each will be awarded to students enrolled in MT and MLT programs and are the children, grandchildren, or siblings of clinical laboratory professionals. For more information about the US Legacy Scholarship program visit www.ascp.org/careerlinks/scholarships/.

Membership Application

(Please type or print clearly)

Name:_____ **Degree/Certification:**_____
(Last) (First) (MI)

Home Address:_____

City:_____ **State:**_____ **Zip Code:**_____

Work Institution:_____

Work Address:_____

_____

City:_____ **State:**_____ **Zip Code:**_____

Home Phone:_____ **Work Phone:**_____

Mobile Phone:_____ **Fax:**_____

Email:_____

Preferred Mailing Address: ☐ **Home** ☐ **Work**

MAABB Committees:

Committee descriptions are found on the MAABB website: **www.maabb.org**
Please check the committee(s)/subcommittee(s) on which you are currently serving or are interested in joining:

Member Relations	Education	Annual Meeting
☐ Webpage	☐ Donor Operations	☐ Exhibits
☐ Infusion	☐ Technical Workshops (TWC)	☐ Program
☐ Public Relations	☐ Training, Regulatory Administrative, Quality (TRAQ)	☐ Registration

Would you be willing to participate in our workshops as a speaker or instructor? ☐ Yes ☐ No

Membership Category: ☐ Individual ($30.00 per annum)
☐ Sustaining ($60.00 per annum)

Make check payable to **MAABB**.

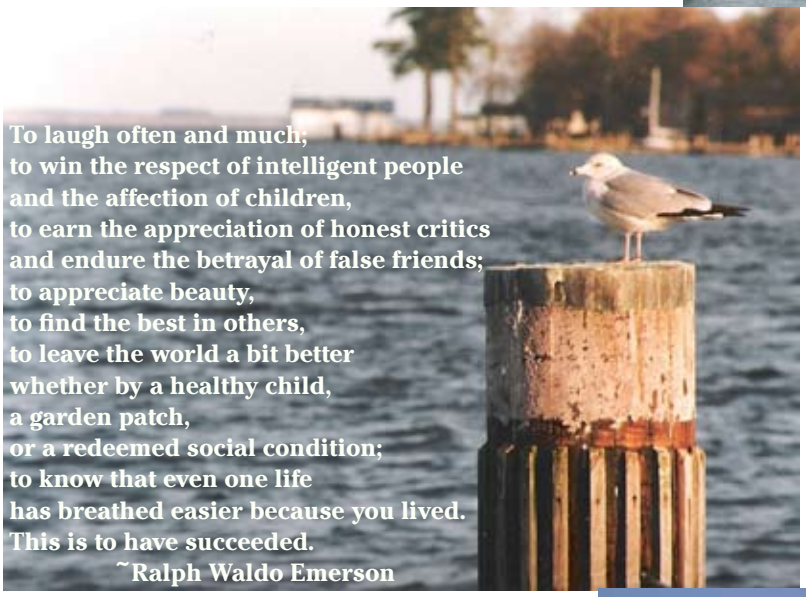
Please return this form with your payment to:

MAABB
P.O. Box 9374
Silver Spring, MD 20916-9374

MAABB use only:
Member ID:_____

Time Out


"To do a common thing uncommonly
well brings success."
~Henry John Heinz


To laugh often and much;
to win the respect of intelligent people
and the affection of children,
to earn the appreciation of honest critics
and endure the betrayal of false friends;
to appreciate beauty,
to find the best in others,
to leave the world a bit better
whether by a healthy child,
a garden patch,
or a redeemed social condition;
to know that even one life
has breathed easier because you lived.
This is to have succeeded.
~Ralph Waldo Emerson


"If we all worked on
the assumption that
what is accepted as
true is really true,
there would be little
hope for advance."
~ Orville Wright

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www.maabb.org

Infusion Publishing Cycle

Submission Deadlines	Distribution Dates
May 30	Late June
Aug 31	Mid-October
Nov 19	Mid-December
Feb 24	Early-March

Be a part of MAABB's Infusion! Case studies involving red cell, white cell, or platelet serology, infectious disease testing, donor collections, or transfusion therapy, MAABB committee and workshop updates, pictures from around the Mid-Atlantic region, and other blood bank adventures are desired! Please send submissions as Word, Excel, Power Point, or jpg attachments to Mike Passwater (mpasswat@pcmh.com) for inclusion in future editions. The Infusion Team is looking forward to hearing from you!

Also... Ad Space is available. Contact maabb.infusion@earthlink.net for pricing and details.

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