In a Different Vein

A NEWSLETTER OF THE
MICHIGAN ASSOCIATION OF BLOOD BANKS

Vol. XX, No. 2
Spring, 2002

President's Message

Working Like a Dog

Linda Cardine
MABB President

I envy my dog. Every morning before I go to work, I make sure that he is fed and has the blanket spread out on the couch to lie in the sun. If life were fair, he would be going to work to support me and I would be lying in the sun.

Fellow blood banker and animal lover Amanda Poxon started me thinking about a dog's life after she attended a lecture on "Working Like a Dog." Dogs put great energy and enthusiasm into their work. They are excited about the results. Dogs like being with other dogs. They know when to rest. What, you are asking yourself, does this have to do with the MABB? Well, I think that our committee members work like dogs. They have great ideas, put together fantastic programs and enjoy working together. When one committee takes a brief rest, the other committees kick up the pace.

A prime example was the recent RAP session on blood utilization. What a marvelous turnout. Dr. Mary Jo Drew and the education committee deserve a round of applause. Sue Adams, Margaret Wilde and Angelo D'Anna initiated the idea. They didn't just suggest that we should have a RAP session. They worked with the education committee and provided a location, lunch and a speaker. Dr. Martha Higgins and Dr. Rob Davenport agreed to round out the speaker's podium. Our members invited other professionals that they thought might be interested in the subject. The result was a first rate educational experience. Thank you all.

Not to be outdone, the Spring Workshop Committee is busy organizing the new format for the Spring Workshop. It will be a one day session this year. The lecture portion will be held in the morning and the afternoon session will feature a wet workshop. Wet workshops are harder to find than Rh null cells. Co-chairs Michelle Horan-Bensette and Christi Brooks and the committee are up to the challenge. The topic is *"Stress Antibodies: How to cope when everything is positive."* There are two scholarships available to help defray the cost of attending the Spring Workshop. Applications for both scholarships are on page 5 of this newsletter. Don't let a lack of funding keep you away.

Michelle Tuson and the Annual Meeting Program Planning Committee are putting the final touches on the speaker lineup for the fall meeting. It will be held at the DoubleTree Hotel in Romulus on September 11th and 12th. The annual meeting is a chance to see new products, catch up on old friendships and learn what is new in the ever changing health care environment. Michelle is still waiting for the top ten reasons that you enjoy blood banking. If she gets enough good ideas, she will have a special treat for everyone who attends the meeting. Mark your calendar and save the dates. You don't want to miss out on this meeting!

Wouldn't you enjoy working like a dog? Join a committee and help our organization grow. We need new ideas, new ways to improve on old ideas, and last but not least, young dogs to teach the old dogs new tricks.

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In a Different Vein is a quarterly publication of the Michigan Association of Blood Banks.

Please feel free to submit any articles, announcements, advertisements, or case studies to ***In a Different Vein***. Items of a personal note regarding colleagues are also welcome.

Send articles to editors:
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1101 W. University Drive • Rochester, MI 48307
(248) 652-5275

-or-

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1 (800) 322-6374 Ext. 4103

2001 - 2002 MABB Officers

"STRESS" ANTIBODIES: HOW TO COPE WHEN EVERYTHING IS POSITIVE

MABB SPRING WORKSHOP THURSDAY • MAY 9, 2002

LECTURE AND WORKSHOP NEW ONE-DAY FORMAT

Spring Workshop Registration Form

Name: _____
Professional Title: _____
Institution: _____
Preferred Mailing Address: ☐ work ☐ home
_____
_____
Daytime Phone: _____
Fax: _____
E-mail: _____
Membership Type:
☐ Indiv Non-Phys ☐ Physician ☐ Institutional

FEE ENCLOSED:	Institutional Member*	Individual Member	Non-Member**
Full Day	☐ $75	☐ $75	☐ $105
Half Day/Morning	☐ $50	☐ $50	☐ $80
Half Day/Afternoon	☐ $50	☐ $50	☐ $80

Full Day registration includes lunch.
Box lunch is available for Half Day participants at a cost of $6.00
Confirmation of registration, parking pass and map will be mailed upon receipt of registration.

TOTAL ENCLOSED: $_____

* only one per institution
** If you are not currently an MABB member and wish to join at this time, you may register at the member rate and pay your membership dues with this registration.
☐ Check if you are applying for NEW membership
☐ Non-Phys ☐ Physician ☐ Institutional

It's NOT too late to register for the 2002 MABB Spring Workshop! Fax registration form to 586/573-7058 and pay at the door! (cash/check only)

Vi Williams Scholarship

Ortho Clinical Diagnostics sponsors the Vi Williams Scholarship to assist with the cost of attending the Spring Workshop. Applicants are eligible for a $125 scholarship.

The Vi Williams Scholarship is in memory of Vi Williams, who died in 1983. She was the Chief Technologist at William Beaumont Hospital in Troy and was a very active member of MABB, especially the Education Committee. She is most remembered for her commitment to quality in education and medical technology.

The scholarship is available to any non-supervisory medical technologist working in the field of immunohematology. The applicant must be a member of MABB at the time of application. The applicant must explain in writing how they would benefit from attending the Spring Workshop. The award will be presented at the lecture session on May 9, 2002.

Deadline May 5, 2002

Send completed application to:

Linda Cardine, MT(ASCP)SBB
Supervisor/Blood Bank
Henry Ford Hospital
2799 W. Grand Blvd. • Detroit, MI 48202
(313) 916-1572 • (313) 873-7427 Fax
e-mail:lcardin1@hfhs.org

Name: _____

Address: _____

_____

Blood Bank Affiliation: _____

Telephone Number: _____

How will I benefit from attending the Spring Workshop: (Use additional pages if necessary):

_____

_____

_____

_____

_____

_____

Emanuel Hackel Scholarship

The Michigan Association of Blood Banks sponsors the Emanuel Hackel Scholarship to defray the cost of attending the Spring Workshop. Applicants are eligible for a $250 scholarship.

Dr. Hackel is professor emeritus at Michigan State University. He has been involved in the Spring Workshop for many years and he will once again be the moderator for the lecture session of the Spring Workshop in May. He has been a long time supporter of the MABB.

The scholarship is available to any medical technologist in the field of immunohematology, blood banking, or histocompatibility. An MABB member must nominate the recipient or an MABB member may nominate him/her self. To apply, the nominee must explain how they would benefit from attending the Spring Workshop. The MABB Board of Directors will select the recipient and the award will be presented at the lecture session on May 9, 2002.

Deadline May 5, 2002

Send completed application to:

Linda Cardine, MT(ASCP)SBB
Supervisor/Blood Bank
Henry Ford Hospital
2799 W. Grand Blvd. • Detroit, MI 48202
(313) 916-1572 • (313) 873-7427 Fax
e-mail:lcardin1@hfhs.org

Nominee Information

Name: _____

Address: _____

_____

Blood Bank Affiliation: _____

Telephone Number: _____

How will the nominee benefit from attending the Spring Workshop? (Use additional pages if necessary)

_____

_____

_____

_____

Nominated by: _____

Address: _____

_____

Telephone Number: _____

Michigan Association of Blood Banks Board of Directors Meeting

February 14, 2002

Attendance: Dr. Mary Jo Drew, Dr. Bruce Newman, Michelle Tuson, Sharon Cisco, Linda Cardine, Peggy Stoe, and Patricia Fedoronko.

I. Meeting was called to Order at 3:50 pm

II. Review of Minutes: Motion was made and approved to accept the minutes of the previous meeting.

III. Financial Report: Motion was made and approved to accept the financial report as presented.

IV. Education Committee Reports
A. Blood Utilization Workshop will be held at Hutzel Hospital in the second or third week of March. Memo will be sent to all hospital Medical Directors, supervisors and financial people. Cost will be $20.00 for the workshop. American Red Cross will provide lunch.
B. The SBB Lecture Series is cancelled due to low registration. Different venues were discussed such as the web site or Internet, to be able to offer educational series to MABB membership.

V. Spring Workshop – Michigan State University
Allotted expense for the workshop is $1,400.00. The morning " Wet" Workshop is limited to the first 20 people registered. The lecture program will be in the afternoon. Cost: ½ day is $50.00 and a full day if $75.00.

VI. Annual Meeting
1. The meeting will be held at the DoubleTree Hotel again this year on September 11 & 12.
2. Vendors that could not attend last year, due to the events of September 11, 2001, will have a financial break this year.
3. Dr. Drew will pursue buying Audio Visual material.

VII. Old Business – None

VIII. New Business – None

IX. Items from the Floor – None

X. Adjournment – meeting adjourned at 4:34 p.m.

Respectfully submitted
Patricia Fedoronko, MT(ASCP)SBB
MABB Secretary/Treasurer

Some Blood Bankers Just Can't Quit!

by Mary DePouw, MT(ASCP)SBB

Jim Lindemann retired as the blood bank supervisor of Henry Ford Hospital in 1999. He left behind an active life and many friends of the MABB and moved to warm sun and ocean breezes in Honolulu, Hawaii. I was surprised to hear that he had left Hawaii for the last frontier where daylight hours are few and snow and freezing temperatures last into summer.

Last March while on a ski trip in Anchorage I visited with Jim and discovered why he chose to move. Anchorage was very inviting and not typical of Alaska. Ocean currents temper the weather; the days in March were 12 hours long and filled with sunlight and clean fresh snow.

Jim built a new home on a mountainside overlooking the ocean and glistening snow-covered mountains in the distance. Completing his home building project left him with a little free time. His friends at Ford Hospital tried to discourage him from giving up a life of leisure, however, he surprised us again by taking a position as the Assistant Lab Supervisor of the Native Hospital in Anchorage. The Native Hospital is quite a unique building with museum cases on every floor displaying the entire history of Alaskan life. Since Native Alaskans receive free health care at their own hospital, I wonder if Jim will be paid for his services?

Jim Lindemann on his deck showing the beautiful view

MABB Rap Session Wrap-Up...

by Michelle Tuson
MABB President-Elect

The MABB Education Committee held its first RAP session of the year at the Kresge Eye Institute, entitled Blood Utilization: Use it or Lose it!" **Jane Ullmann-Bester**, a transfusion specialist from ARC North Central Blood Services and Fairview-University Medical Center presented "Blood Utilization Review-Can You Manage It?" The first reason given for performing utilization review is that it is required by AABB and JCAHO, as well as FDA if donors are drawn. She followed with the AABB standard:

The 21st edition of the AABB standards states that all transfusing facilities shall have a peer review program that monitors transfusion practices for all categories of blood and components and that the following activities shall be monitored:

1. Ordering practices
2. Sample collection
3. Usage (including discard of components)
4. Appropriateness of use
5. Blood administration policies
6. The ability of services to meet patient needs
7. Compliance with peer review recommendations

Another benefit of utilization review is that it improves transfusion practice and patient care. She added that an effective method is to establish guidelines for all products and distribute them to staff physicians. The guidelines may include information about dosing, irradiation, transfusion reactions, informed consent and risks of transfusion. Transfusion activity, including outdated and wasted components should also be reported on a regular basis. The Blood Bank physician should evaluate all reported reactions and follow up on any reaction deemed to be "significant." Nursing staff should know how to recognize a transfusion reaction, and know how and when to document a reaction. Blood administration should also be included in nursing continuing education requirements. And the administration procedures should be monitored. Direct observation by following a unit to the patient room and observing the procedure was recommended. Results of the observation should be documented and reported to the nurse, nursing director and transfusion committee.

Jane discussed the many utilization activities that she employs, as well as the pros and cons of retrospective vs. concurrent vs. prospective reviews.

Dr. Robertson Davenport of the University of Michigan then spoke on setting transfusion audit criteria. He discussed indications for each of the blood products available for transfusion and possible ways to monitor the transfusion outcome. He also gave examples of why we may not get the expected increment post transfusion due to the patient's condition. As an example, red blood cells are transfused for acute blood loss, however, the expected increment in hemoglobin may not be observed until the active bleeding is stopped. He also covered autologous blood, platelets, plasma, cryoprecipitate, as well as pediatrics and special circumstances.

Dr. Martha Higgins finished the program with the topic: *"No Transfusion Committee? - No Problem!"* She described how she accomplishes utilization review without the benefit of a transfusion committee. Reviewing the AABB and JCAHO requirements revealed that they do not require that a transfusion committee be part of the utilization review process. She displayed a list of requirements that must be met with utilization review and the activities and processes that can be used to meet these requirements. An evaluation was provided to determine if it is time to disband the transfusion committee, as well as the advantages and disadvantages.

The program was very informative and well attended. Thanks to Southeastern Michigan ARC for sponsoring the luncheon, as well as bringing Jane Ullmann-Bester to speak at the event.

Memorial Tribute

Grace Neitzer, MT(ASCP)SBB, a Past President of the Michigan Association of Blood Banks, died April 4, 2002, at Baptist Memorial Hospital in Memphis, TN, at the age of 83. She served a long and distinguished career in blood banking.

She received her medical technologist certification from Wayne State University Woman's Hospital in 1944, and earned a bachelor's of arts degree from Wayne State University in 1947. In 1958 she obtained her specialist in blood banking certification (SBB).

Her career in blood banking began in 1953 at the Detroit Blood Service, where she served along with Kay Beattie as Technical Co-Director for the Michigan Community Blood Center (MCBC). In 1971 she became Technical Director of the Central Blood Bank of Pittsburgh, in Pittsburgh, PA. She moved to Memphis, TN, in 1977, to serve as technical director for Baptist Memorial Hospital Blood Bank, a position she held until her retirement.

Grace was a respected immunohematologist and teacher. She reported on G^u, a variant of the Rh variant G, at the 1960 International Congress for Blood Transfusion in Moscow. She was also coauthor of a 1982 paper on the high frequency blood group antigen, Er^a, named after a patient from the Flint area. From 1960 to 1971, she was Educational Coordinator for the Specialist in Blood Banking Program at Michigan Community Blood Center in Detroit. At the same time, she served as an instructor in the Department of Pathology at Wayne State University College of Medicine. In 1972, she joined the faculty at the University of Pittsburgh's Department of Medical Technology, School of Health Related Professions as an adjunct faculty member, a position she held until 1977. In 1981, she became a clinical assistant professor of clinical laboratory sciences at the University of Tennessee College of Community and Allied Health Professions in Memphis, TN.

Grace was an active and accomplished member of numerous professional blood banking organizations. When the MABB was first formed, membership was not available to medical technologists, and they were barred from holding office. Once they were granted membership, one technologist stood above the rest: Grace Neitzer was the person behind the scenes getting things done. Her ability to rally the support and resources for activities was unequalled. She, along with her technologist peers, formed the core group presenting nationally recognized wet workshops and other educational activities of the organization. When leadership was opened to technologists, Grace quickly advanced through the ranks to become President of the MABB in 1971. She was the inspiration for the creation of the MABB Founder's Award, and in 1983 was its first recipient.

Grace Neitzer

Grace also became President of the Mid-South Blood Bank Organization in 1980, the Southeastern Area Blood Banks Association in 1981, the Tennessee Association of Blood Banks (TABB) in 1982, and the American Association of Blood Banks (AABB) in 1983. Her dedication to the profession has been widely recognized. She was the 1978 recipient of the L. Jean Stubbins Award of the South Central Association of Blood Banks, the 1985 recipient of the TABB's Lemual W. Diggs Award, and presented the Lyndall Molthan Lecture to the Pennsylvania Association of Blood Banks in 1988.

As a member of AABB since 1957, Grace served the organization in a variety of capacities, including chair of several committees, Inspector for the Accreditation Program from 1958 until her retirement, Secretary from 1980 to 1981, two terms as Vice President from 1981 to 1983, and President from 1983 to 1984. She remained a member of AABB until her death. Her work with AABB was recognized on several occasions beginning with the Ivor Dunsford Memorial Award in 1969, the John Elliott Memorial Award in 1979 and a Distinguished Service Award in 1988.

Grace, who was the widow of Benjamin Vincent Neitzer, leaves two sons, Eric Neitzer of Harsens Island, MI., and David Neitzer of Dearborn, MI.; a stepdaughter, Betty Lipset of Nipomo, CA; a stepson, Ben Neitzer of St. Petersburg, FL; a sister, Elizabeth F. Overstreet of Santa Fe, NM, six grandchildren and five great-grandchildren. The family requests that memorials be sent to Baptist Memorial Healthcare Foundation or Friends of the Pink Palace.

W. John Judd, FIBMS, MIBiol
Suzanne H. Butch, MA, MT(ASCP)SBB)
Ann Arbor, MI

"Grace was a simply lovely lady. She was very quiet, nice, soft-spoken, and giving to others. She was certainly a mentor to me when I first arrived in Michigan to begin my blood banking career and I deeply admired her. My work took me to Memphis several times in the past few years and I was able to visit with Grace during those times. She will be surely missed by all those who were fortunate to have known her."

~ Ann Steiner
Ortho Clinical Diagnostics

The Genesis of Transfusion Medicine

In the beginning, God created the antigens and the antibodies; and the blood was without form and void, and darkness was upon the face of the deep; and the Spirit of God moved over the face of the fluids.

And God said. "Let there be Medicine." And there was Medicine. And God saw that Medicine was good; and God separated the Medicine of blood into a subspecialty called Transfusion Medicine, and the rest of Medicine, particularly Internal Medicine and Surgery, He called irrelevant, for the moment. And there was an evening and morning, one day.

And God said "Let there be red blood cells in the midst of the plasma, and let the red cells flow in the body, through veins and arteries." And God made the red cells and separated them from the plasma, and made them flow through veins and arteries. And God saw that the red cells were good and called them erythrocytes. And there was an evening and a morning, a second day.

And God said, "Let there be white blood cells and platelets; and let them, along with all the erythrocytes under the heavens, originate from the bone marrow. And it was so. And God called the white cells lymphocytes, and the platelets He called platelets because He couldn't think of a better name. And where the lymphocytes mixed with the erythrocytes He called the spleen. And God said, "Let the B-lymphocytes put forth antibodies in the plasma to all the erythrocyte antigens listed in the Book of Issitt, antibodies to each antigen of a specificity determined by the affinity of the antibody for the antigen, each according to its kind." And it was so. The B-cells brought forth IgM and IgG for the plasma, and IgA for the secretions. And God saw it was good. And there was an evening and a morning, a third day.

And God said, "Let there be complement in the plasma to aid in the interaction of antibody with antigen." And it was so. And God made many components to complement, all to react in the sequence 1, 4, 2, 3, 5, 6, 7, 8, 9, just to keep us on our toes. And thus, some antibodies interact with complement, to either coat erythrocytes or hemolyze them. To detect antibody and complement coating He made antihuman globulin, and called it Coombs serum. And God saw it was good. And there was an evening and a morning, a fourth day.

And God said, "Let there be transfusion of blood, from one body to another." And so God created facilities to collect blood, and facilities to transfuse blood. And God called facilities that collect blood, Blood Centers; and facilities that transfuse blood He called Transfusion Services. And God divided the collection of blood between the Crimson Crucifix, the AABB and CCBC. And God called the Crimson Crucifix the ARC. And God saw it was good. And there was an evening and a morning, a fifth day.

And God said, "Let the AABB, CAP and FDA, and anyone else who wants to, promulgate Standards to regulate the collection and transfusion of blood." And it was so. And God said, "Let the earth bring forth inspectors." Every damn AABB, CAP and FDA inspector He made, and said to them, "Be fruitful, and multiply, and inspect." And God saw it was good.

Then God said, "Let us make Blood Bankers in Our image, after Our likeness; and let them have dominion over the field of Transfusion Medicine." And so God created Blood Bankers in His own image. In the image of God He created them, male and female. And God blessed them, and gave them white coats and rubber gloves. And God said to them, "Be sharp and witty, and invade medicine and subdue it; and have dominion over the erythrocytes, and over antigen-antibody interactions, and over transplantation, and over autoimmune hemolytic anemia, and over hemolytic disease of the newborn, and while you are at it, clear up some of those infectious diseases." And God said, "Behold, I have given you a block in the first trimester of the fourth year, and you shall have medical students, house-officers, residents and post-doctoral fellows to teach. And every laboratory test, and every reference in the library, everything that mentions Transfusion Medicine, shall ye teach." And it was so. And God saw everything that He had made, and behold, it wasn't too bad. And there was an evening and a morning, a sixth day.

Thus Transfusion Medicine was finished, the whole damn thing. And on the seventh day, God rested from all His work, which He had done. So God blessed the seventh day, and hallowed it.

This is the generation of Transfusion Medicine, when it was created.

W. John Judd, FIBMS, MIBiol
June 2001

PLATELET SUBSTITUTES AND PLATELET GROWTH FACTORS: FANTASY OR REALITY?

by Mary Jo Drew, MD, MHSA
Henry Ford Hospital Blood Bank

Transfusion medicine specialists frequently hear the question, when a clinician is faced with a bleeding patient who will not accept blood products because of fear of viral infection or their religious beliefs, "Is there a blood substitute available?" The development of red cell substitutes, in the form of fluorocarbons or modified human or bovine hemoglobin, has been marked by both great promise and bitter disappointment. No product has yet been licensed to serve as an oxygen carrier for general use.

Practitioners at facilities where platelet products are in high demand may wonder if there has been any work on a substitute for platelets. The need for such a product is obvious. With aggressive chemotherapy regimens and complex cardiac and transplant surgery, the use of platelets has, over the last few years, grown faster than the use of red cells. In fact, at some facilities, random platelet equivalents transfused may outnumber RBC units transfused in a given year.

Potential problems with transfusion of platelets can include febrile or septic transfusion reactions, refractoriness (with or without alloimmunization), the risk (however low) of viral transmission, short shelf life with resultant product shortages, and increasing product cost. Wouldn't it be great if there was a substitute for platelets that worked as well as the real thing? What about a growth factor that would reliably stimulate platelet production in thrombocytopenic patients? How would the availability of such substitutes for platelets change transfusion practice?

Well, platelet growth factors and platelet substitutes are "out there". Some are being tested in clinical trials, some are just beginning development, and some are just a glimmer in the eyes of bioengineers and researchers! We will review some of these substances with promise, and speculate on their potential impact on transfusion medicine.

Platelet Growth Factors

Mpl ligands/thrombopoietin. The route to the discovery of thrombopoietin (TPO), the growth factor for megakaryocytes, was long and circuitous. The factor itself was actually characterized from thrombocytopenic plasma in the mid-1990s by first cloning its hematopoietic cell receptor, c-Mpl. TPO was then extracted from the plasma of irradiated pigs by using affinity columns coated with the c-Mpl receptor. The ligand came to be known as TPO due to its effects on growth and differentiation of early platelet precursors. The TPO "family" includes native TPO, recombinant glycosylated human TPO (rHuTPO), and megakaryocyte growth and development factor coupled with PEG (PEG-rHuMGDF). Although TPO acts on all hemopoietic cell lines, its effects on megakaryocyte progenitors and mature megakaryocytes hold promise for use in thrombocytopenic patients.

Several randomized clinical trials have shown a potent, stimulatory effect of TPO on platelet production in cancer patients undergoing non-myeloablative chemotherapy, that is, chemotherapy that does not totally "wipe out" the patient's bone marrow. After chemo, platelet nadirs were higher in patients receiving TPO, and platelet counts returned to baseline levels sooner than in patients not receiving TPO. In patients receiving myeloablative chemotherapy, little or no increase in platelet production was noted, and no change was observed in the number of platelet transfusions received. This is unfortunate, as this latter group of patients is responsible for much of the platelet usage at many facilities.

Interleukin 11 (IL-11). IL-11, another hematopoietic growth factor, has stimulatory effects on bone, oral mucosal cells, B lymphocytes and megakaryocytes. Randomized clinical trials have shown significantly decreased need for platelet transfusion among chemotherapy patients receiving IL-11, compared with a group receiving a placebo. Patients on IL-11 had fewer days at platelet counts of <20,000. No studies have yet been completed on patients receiving IL-11 in myeloablative chemotherapy or stem cell transplant.

The major recombinant ligands, PEG-rHuMGDF and rHuTPO, appear well-tolerated, with few side effects. However, up to 10% of patients may form antibodies to PEG-rHuMGDF, which cross react with endogenous TPO and cause thrombocytopenia. This occurrence in one study has stopped clinical development of PEG-rHuMGDF. No such antibody formation has been noted with rHuTPO.

continued on page 9

continued from page 8

Uses of platelet growth factors. In patients receiving non-myeloablative chemotherapy, administration of platelet growth factors can shorten the duration of thrombocytopenia, enhance the recovery of platelet counts, and decrease the need for platelet transfusion. IL-11 is FDA licensed in the US for prevention of severe thrombocytopenia in patients receiving non-myeloablative chemotherapy for non-myeloid malignancies. Thus far, only one study shows usefulness of platelet growth factors in patients receiving myeloablative chemotherapy.

Platelet growth factors may serve a useful role in increasing the yield of peripheral blood stem cell collections and donor platelet collections. They may also find a use in ex vivo expansion of stem cells for transplantation. Theoretically, platelets for transfusion could also be produced outside the body from CD34+ cell lines to which platelet growth factors have been added.

Platelet Substitutes

If asked to design a physical substitute for platelets, certain properties would be desirable. The platelet substitute should:

- ✓ be hemostatically active,
- ✓ not be associated with thrombogenicity (hypercoagulability),
- ✓ not be immunogenic,
- ✓ be sterile,
- ✓ have a clinically significant duration of action in the circulation,
- ✓ have a long shelf life during which full function is maintained,
- ✓ have no specialized storage requirements, and
- ✓ be easy to prepare and administer.

Quite a wish list! Platelet substitutes with at least some of these properties have been developed and tested with varying outcomes.

Lyophilized (reconstituted) platelets. Lyophilized or freeze-dried platelets are derived from human platelets, formalin fixed, frozen, thawed and reconstituted with saline. This procedure preserves the platelets' structure, function and metabolism. Lyophilized platelets were first used in 1956 in patients with leukemia. No platelet increments were noted, but bleeding stopped in half of the patients within 10 minutes of transfusion. Subsequent studies in animals were not as successful. Later trials with animals, and more recently with human subjects, have had good results.

Red cells as platelet substitutes. Red cells have been used as "carriers" of substances that trigger the clotting cascade. Red cells with surface-bound fibrinogen have shortened the bleeding time in rats one hour after infusion. It appears that platelet aggregation is enhanced without any ill effect on the red cells. Red cells with RGD peptides bound to their surfaces have also been found to shorten the bleeding time in small animal models. The RGD peptide is a sequence of the amino acids arginine, glycine and asparagine that normally exists on fibrinogen. This peptide sequence is recognized by the platelets' GPIIb/IIIa receptor, triggering platelet aggregation. Human studies have not yet been done, as the technique has not looked as promising when tested in primates.

Fibrinogen-coated albumin microspheres (FAMs). Microspheres of human albumin measuring 1.2 microns (small enough to pass through the pulmonary capillary bed) can have human fibrinogen covalently bound to their surfaces. FAMs enhance agonist-induced platelet aggregation and actually coaggregate with platelets. Studies conducted in rabbits have thus far been successful.

"Clottocytes"-artificial, mechanical platelets. Moving rapidly into the 21st century, let us consider the bioengineering concept of clottocytes. These tiny (2 microns), spherical, nanorobotic devices would contain a fiber mesh packet folded onboard. The devices would be powered by oxyglucose present in the circulation. After injection, when they have reached the site of bleeding, the devices' microcomputers would be activated to unfurl their mesh packets in the vicinity of the injured blood vessel(s). A soluble film coating the mesh packet dissolves on contact with plasma, giving red cells and fibrin a place to adhere to stop bleeding. Given the pace of development of nanorobotics, this concept is less farfetched than it may seem.

Conclusion

The shortcomings of current platelet products may be overcome with the use of platelet growth factors and/or platelet substitutes. Much research and testing remain to be done. But we could all agree that this is an area in which transfusion medicine research is "blazing a new frontier!"

MaryJo Drew, MD is the Division Head of Transfusion Medicine and Medical Director of the Blood Bank at Henry Ford Hospital, Detroit, MI. She is a member of the MABB Board of Directors and has served as Education Chair for many years

Kenneth J. Fawcett, M.D., M.S. Retires from Genesys Regional Medical Center

Dr. Ken Fawcett retired from his position as Medical Director of the Transfusion Service at Genesys Regional Medical Center last December. As a mentor to many blood bank techs, he has had a very positive effect on the MABB and blood banking community. All of us who worked with him remember his innovative and entertaining presentations. Most of all his practical steps for patient safety left an indelible impression on us. He began his career with the Medical School at the University of Michigan, an internship at Harper Hospital, a fellowship in Pathology at Mayo Foundation in Rochester, MN and followed with an M.S. in Pathology at the University of Minnesota.

His background is so varied including numerous journal publications and leadership positions that I found it necessary to interview him about his life as a blood banker. When asked how he got his start in blood banking and where it lead him, his story was too interesting not to share.

~ Mary DePouw

Following medical school in Ann Arbor and Pathology Fellowship at the Mayo Clinic, I was an obligated volunteer assigned by the U.S. Army to Tripler Army Hospital in Hawaii in 1966. There, instead of doing surgical pathology as I had hoped, the Army ordered me to be a clinical pathologist. That's how my avocation with blood banking began.

Fortunate indeed was I to have a marvelous blood bank supervisor, Edith Eckstein, SBB. Together, we did what she suggested and what I thought appropriate with the result that patients were well served and I was introduced to educating physicians and non-physicians into the mysteries of blood banking. We did the first two adult exchange transfusions for patients with profound hepatic coma in Hawaii. Thankfully, both patients woke up and survived! This was where I first became involved in drawing blood donors with a blood drawing team of 15 GI's. We traveled about Oahu drawing and processing blood for Tripler, as well as for shipment to Japan and Vietnam.

Kenneth R. Fawcett, M.D., M.S.

Following these halcyon days, I was employed at the South Bend Medical Foundation in Indiana. I accomplished little there out of the ordinary except to pass the Pathology Blood Banking Boards and learn that enzyme cross matches were not a good thing because the phone rang every night.

After a few years, I joined the pathology group at Mt. Carmel Hospital in Detroit, where once again I found a superb blood bank supervisor, Mrs. Rose Bedrick, SBB, RN. Knowing she was soon to retire, she inveigled me to establish a free standing Specialist in Blood Banking School with her as the technical resource and me as the medical/scientific resource. This led to a lot of things including meeting many interesting people such as Grace Neitzer, Kay Beattie, Emanuel Hackel, Cindy Murray and Richard Walker, and becoming involved with the MABB and AABB. We could not have had a successful program without the practical experience our 6 students gained at Beaumont Hospital doing OB/GYN studies and at the American Red Cross drawing donors. The certification of all 6 students is my favorite accomplishment. One, Kathleen Beeuwkes, SBB, became our blood bank supervisor at Mt. Carmel.

I enjoyed my participation with the Michigan Association of Blood Banks, becoming President in 1978-1979. We did a few unusual things for the MABB members including moving the Spring

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Ken Fawcett Retires

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Workshop from its longtime downtown Detroit location to the Lansing Red Cross Blood Center with the enthusiastic cooperation of Red Cross staff. This newsletter, "In a Different Vein" was resurrected from its moribund state by the efforts and editorship of Dr. Bruce Friedman and others, continuing even today. Another contribution was the presentation at the Annual Scientific Meeting, "Curiosities in the Blood Bank."

At Mt. Carmel, I was in charge of the immunopathology section. The tissue typing laboratory supported the kidney transplant program. In 1983, before AIDS was named, I met and shook the hand (without gloves!) of the first patient with diminished T cells we diagnosed with what later would be known as the AIDS Related Complex. T and B cell monitoring was one of our daily activities. This led to my involvement with tissue typing and transplant immunopathology professionals within the state and about the country and eventually to helping write Standards for the AABB on Histocompatibility Testing and helping inspect these laboratories.

We committed what then was heresy by drawing autologous and even a few directed blood donors at Mt. Carmel. Our regional blood supplier would not draw either type of donor. We drew autologous donors before HIV was recognized at the behest of a plastic surgeon who was concerned about what was then called Non A and Non B hepatitis. Directed donors were drawn because of their intense fear of contracting HIV from a transfusion of community blood. We tried, unsuccessfully, to get our local blood supplier to stop importing and distributing blood from New York and California before transfusion transmitted AIDS was acknowledged to be a transfusion hazard. Failing in that endeavor, Mt. Carmel did not accept blood from those states or from Puerto Rico or other states as the real incidence of AIDS and HIV infection became known.

My American Association of Blood Banks activities included inspecting blood banks for about 15 years, serving as a workshop committee member and a member of other committees including Standards, Histocompatibility, and Inspection and Accreditation. I was a contributor and editor of several AABB publications. I was fortunate to know many fascinating blood bankers, including the inventor of the "Desert Martini"... Dr. Robert Klein, the Chairman of the National Inspection and Accreditation Program.

Wanting to try my hand at managing a large operation, I was for a time Director of Blood Services of the American Red Cross Tennessee Valley Region. That lasted only for a few years and as I paraphrase Paul Harvey, that's another story.

Returning to Michigan in 1988, I was most fortunate to have two strong blood bank supervisors, Kay Schnur and Debbie Smith at St. Joseph Hospital in Flint and at Genesys Regional Medical Center in Grand Blanc. I retired in December, 2001 (to my wife's great consternation) from this last institution. At those institutions, we took advantage of the opportunity presented by the consolidation of four hospitals, medical staffs and blood banks into one organization to promulgate a set of blood bank operating instructions titled "Blood Bank Aphorisms". This booklet contains policies about blood samples, unnecessary testing (which will not be performed) and potential problems. Our solutions to these problems represented the distillate of decades of observation of human behavior in the blood transfusion process. These "Aphorisms" have prevented harm to patients.

In retirement, my wife and I hope to get along, travel, enjoy our individual pursuits and each other. If you're traveling by, please call and stop. We're in the book!

Internet Corner

To assist in HCV Lookback cases, a search on the internet may be useful. The living status of the recipient is rarely easy to determine. Two sites list people who have received social security benefits and have since died. The social security number and residence state must be entered. www.ancestry.com/SSD
www.rootsweb.com

The California Blood Bank Society has a web site with numerous features overflowing with information. The "hot topics" section and e-Network Forum section provide good resources for questions and ideas. www.cbbsweb.org

MICHIGAN ASSOCIATION OF BLOOD BANKS
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Membership Update

Have you sent in your 2002 Membership Dues yet? YOU are the reason that the organization exists. Each member within the organization is valued and we strive to continually provide first rate educational programs for our members. The membership renewals have been coming in steadily since January, and we have new members joining the MABB each month.

Please welcome the following new members to MABB:

Individual Members ~

Nancy Broadbridge, MT(ASCP)
Providence Hospital

Michael Cortez, RN, BSN
American Red Cross

Angelo D'Anna
American Red Cross

Barbara Seibert
Crittenton Hospital

Institutional Members ~

Community Health Center of Branch County
Attn: Sara Desmond

Memorial Healthcare Center/ Owosso
Attn: Bob Berg

We look forward to your involvement in upcoming MABB events!

Calendar of Events

May 9, 2002
MABB Spring Workshop
New 1-Day Format
(see nomination forms on page 5 of this issue)

September 11-12, 2002
MABB Forty-Eighth Annual Meeting
DoubleTree Hotel • Romulus, MI