FROM THE DESK OF THE PRESIDENT

As many of you may already know, our beloved President, Chris Bennedsen, died suddenly on December 26, 2002. We will all fondly remember his patience, dedication, and persistence to the Thalassemia Foundation and its patients. Chris was the leader we all admired, he always kept an unbiased ear open to suggestions and resolved conflicts with the utmost diplomacy and skill. He is remembered for the countless hours he would wait patiently in offices to expedite Foundation matters. His calm demeanor made the entire Board feel comforted and he was approachable at anytime should a problem arise. His home was open to any of us at all times. We would spend late nights at his home for emergency meetings trying to resolve the latest conflicts in the news or at the Hospital. It is strange that in a recent article Chris wrote about "Our Unsung Heroes", to me, Chris epitomized "The Unsung Hero". He was always at the forefront of our constant crusade and conveyed the importance of diplomacy and patience when logically resolving a conflict. He was a leader amongst leaders. He has left the Foundation with a large void, both physically and spiritually. However, Chris taught us victory can only be attained through coordinated efforts. I am glad to report that the Board has rallied together and has reorganized itself to recover the great loss of Chris Bennedsen - who was a leader, a friend and mentor to us all.

I would like to end with the words Chris usually signed off at the end of his article: "Our best wishes to all for a safe and happy summer."

God Bless, Corrado Falcitelli, President

SWIMMING POOL ANNUAL CHRISTMAS TOY DRIVE - DECEMBER 2002

For the past few years The Swimming Pool Restaurant and Bar has hosted a Christmas toy drive for Hospital for Sick Children and various other charities. 2002 marked the second year that The Swimming Pool has dedicated all of its efforts to collecting toys for patients with Thalassemia at Sick Children's Hospital. This year was an enormous success with a great surplus of gifts that was distributed to other worthy charities. We would like to thank Giuseppe DeCicco, his staff and customers at the Swimming Pool as well as Teresa Caruso from Mattel Canada Inc. for their significant efforts to acquire toys. These toys were given out at the Thalassemia patient's annual Christmas Party at the Hospital for Sick Children held on Sunday, December 8, 2002. The surplus gifts were brought over to Toronto Ronald McDonald House and to the CHUM City Christmas Wish Toy Drive. Thanks again to all the generous donations and help from all involved. The children receiving them were momentarily freed from their lifetime battle with illness.

Mike Livia (L) and Corrado Falcitelli (R) with CHUM toy drive co-ordinator (C) surrounded by toys dropped off at the CHUM Radio HQ on Yonge St.

IN THIS ISSUE

VALENTINE'S DINNER DANCE 2003

Performers at Valentine's Dance

On February 08, 2003, the Thalassemia Foundation of Canada held it's 14th Annual Valentine's Dinner Dance. This year's venue was held at The Regency Banquet Hall located at 8400 Jane Street in Vaughan. The hall was filled to capacity, approximately 600 guests in attendance, making it one of the most successful fundraising events in our 14 year history.

The evening started off with our master of ceremonies, Mr. Sam Ciccolini doing the introduction. Once the introduction was complete, dinner commenced promptly at 7:30pm. Dinner comprised of a 6 course meal, which the food and service at the hall were exquisite.

During our dinner, we held our raffle of prizes, our speech from our guest speaker Dr. Ian Quirt from the Toronto General Hospital Hemoglobinopathy Program, and our awards presentation. Throughout the course of the evening, our silent auction and Fifth Avenue Jewellery booth were being conducted in the lobby. This year's silent auction was once again held by Vriesen Auctions. Our live auction comprised of two autographed hockey sticks, a box seats of Raptors tickets, a Toronto Maple Leafs signed hockey jersey, a bottle of wine, and two tickets to the Elton John/Billy Joel concert.

Dr. Ian Quirt gave an outstanding speech on Thalassemia, discussing current treatments and future potential treatments to take place. After his speech, the awards presentation took place. This year's recipients were Sandy Sinaguglia accepting the Appreciation Award, Signature Bindery Services Inc. accepting the President's Award, and Angela Polsinelli accepting the Alex Georgakopoulos Award. Once dinner ended, the band "September" took over the evening with their music and had everyone in the hall dancing to their sound.

Tony Marra presenting the Alex Georgakopoulos Award to Angela Polsinelli

Cheque presentation from the Thalassemia Foundation for $110,000 in research funds for the year 2003 to Dr. Quirt, Dr. Kirby and Anne Chun.

Towards the end of the evening, we held our Mini Cooper Vehicle Lottery Raffle. Mr. Brian Sequeira, last year's winner of the Volkswagen Beetle was called up to pick this year's winning ticket from the drum. The winner of this year's Mini Cooper vehicle was Mr. & Mrs. Savino Patruno.

A special thank you goes out to the entire Valentine's Dance Committee for all of their hard work and dedication in making this event a success; to Mr. Sam Ciccolini for his outstanding work and continued support as our master of ceremonies; to all who sold tickets in making the event a success; to The Regency Banquet Hall for their outstanding service and excellent food; to Enza Salituro for her contribution in gathering our numerous raffle prizes; to all individuals and corporations that donated funds and prizes; and last but not least, to Corrado Falcitelli for his dedication and will in making this year's Mini Cooper vehicle raffle lottery a sellout!

This year's event approximately raised a whopping $77,000 which will help fund our Foundation in pledging $110,000 in research funds for the year 2003. Thank you to everyone who attended the event and we hope that we can continue to rely on your support in our future events, so that we may come closer and closer in realizing our goal; to find a cure for Thalassemia.

Alfonso Sinaguglia
2003 Valentine's Dinner
Dance Chairperson

ROSA & SAVINO PATRUNO TICKET #0422. WINNERS OF THE 2003 MINI COOPER RAFFLE.

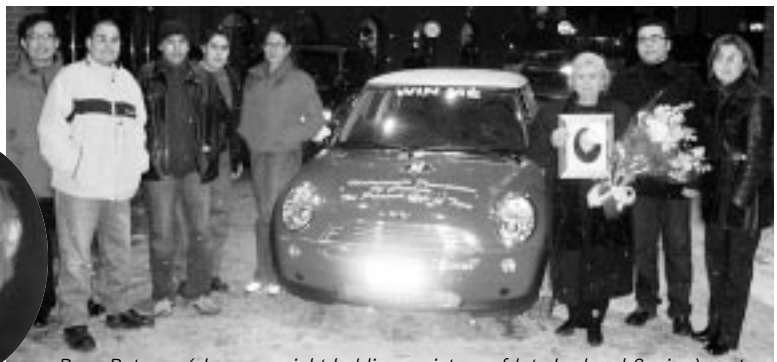
We would like to thank Rosa Patruno for graciously donating the MINI prize back to the Thalassemia Foundation of Canada. This generous donation was made in honour of her late husband, Savino, who passed away December 14, 2002 shortly after purchasing the raffle ticket with his wife in November.

Special appreciation to all corporate sponsors that helped sell tickets at their locations including:

* Acceso Restaurant & Wine Bar (398 Eglinton W)
* Apotex Inc. (150 Signet Drive)
* College Medical Pharmacy (474 College St.)
* Norwest Precision Ltd. (460 Signet Drive)
* Novex Pharma (380 Elgin Mills Road E.)
* Poolside Café & Deli (3200 Dufferin St.)
* Poolside Tanning Spa (3250 Dufferin Street and 2943 Major MacKenzie Dr.)
* The Ritz Banquet Hall & Convention Centre (30 Pemican Court)
* Roma Fence (24 Cadetta Road)
* Royal Group Technologies (Royal Foam Division)
* Swimming Pool Restaurant (3200 Dufferin Street)
* Tazza Espresso Bar and Café (5100 Rutherford)
* TD Bank (4499 Hwy #7)
* TorPharm Inc. (50 Steinway)
* Williams Coffee Pub (197 North Queen)

A great appreciation to everyone involved in our efforts and I am pleased to say that we sold over 4900 tickets for the MINI draw and truly a successful endeavor for the Foundation.

Corrado Falcitelli



Rosa Patruno (shown on right holding a picture of late husband Savino) next to Executive Board Members of the Thalassemia Foundation of Canada.

The Thalassemia Foundation of Canada, together with the Anemia Institute, Sickle Cell Association of Ontario, Canadian Sickle Cell Society, Aplastic Anemia & Myelodysplasia Association of Canada, Canadian Celiac Association & Fanconi Canada, bring you the:

NATIONAL ANEMIA PATIENT CONFERENCE 2003
"WORKING TOGETHER TO FIGHT ANEMIA"
Saturday, Sept. 20 & Sunday, Sept. 21, Novotel, 45 The Esplanade, Toronto, Ontario

A 2-day conference for patients, caregivers, and healthcare professionals dealing with chronic anemia conditions including: thalassemia, sickle cell disease, aplastic anemia, Myelodysplasia, Fanconi anemia, and Celiac disease.

KNOWLEDGE IS POWER!

TOPICS:

* Optimal Thalassemia Clinics
* New Developments in Iron Overload
* Importance of Hemoglobin levels in Bone Marrow Transplant
* Inherited Marrow Failure Systems: Future Challenges
* Blood Transfusion Therapy: Safety & Supply, Today's Risks, Implications for Patients with Chronic Anemia
* Hemoglobinopathy Research Programs at UHN
* Workshops on: Psychosocial Issues; Alternative Approaches to Pain Management; Journalling as a tool in your healthcare journey; Pregnancy & the Hemoglobinopathies

Registration: $40.00 includes two days refreshments including lunches and continental breakfast.

- Special registration rates available for those who need them.
- Travel sponsorships available for those outside Toronto.
- Novotel Hotel Accommodation: Group rate of $145.00 a night plus tax.
- Reserve your room by calling Novotel at 416-367-8900. Reference: "Anemia Conference"

****Pre-Registration is essential****

For more information please contact:
Margery Konan, Anemia Institute for Research & Education
151 Bloor St. W., Suite 600, Toronto, Ontario M5S 1S4
Phone (416) 969-7457 Fax (416) 969-7420 margery@anemiainstitute.org

Connie receiving the Presidents Award at the Valentine's Dance.

IN MEMORY OF

Connie Bennedsen was a vivacious and compassionate individual who was a great asset to the Foundation in her many years of volunteer service. She supported and attended many functions alongside her late husband Chris and were inseparable. After her husband Chris passed away suddenly in December, just a short six months later Connie was admitted into hospital succumbed to illness on June 10, 2003. Some might say she passed away due to her ailments, others say it was due to a broken heart. May God bless Chris & Connie Bennedsen as they look upon us, grant us your courage and wisdom to guide us in our path to better ourselves and find a cure for Thalassemia which you dedicated and sacrificed countless time for.

DR. DAVID CHUI'S FAREWELL LUNCHEON
Villa Monaco, December 15, 2002

On Sunday, December 15, 2002 the Thalassemia Foundation of Canada and friends bid farewell to a great doctor and friend. Dr. David Chui accepted a position at Boston University in the United States. He will be leaving his role as Chair of our Medical Advisory Board. Our beloved past President, Chris Bennedsen, presented Dr. Chui with a plaque that best describes this highly regarded man.

With deepest affection and gratitude for your many outstanding years of commitment and allegiance. Your assistance to enhance the lives of thalassemia patients in their battle to survive will forever be committed to memory. Our thoughts and best wishes will follow you in your future benevolent projects an eternal appreciation.

Chris Bennedsen (R) presenting plaque to Dr. David Chui (L)

FAREWELL NOTE FROM DR. DAVID CHUI

In 2001, the Thalassemia Foundation of Canada received letters of intent to submit research proposals from researchers in Montreal, Kingston, Toronto, Hamilton, and Vancouver. These were carefully evaluated by the Medical Advisory Board, and our recommendations were presented by myself in person to the Board of the Foundation. In the end, three applications were approved and funded. A fourth application was also deemed highly meritorious, yet not funded due to insufficient funds available.

The following are three reports prepared for the Newsletter by the three groups of researchers. The first one is a collaborative study between Mr. John Lafferty and Dr. Mark Crowther at McMaster in Hamilton, Dr. David Barth at University Health Network in Toronto, and Dr. Brian Sheridan who is the National Medical Director of MDS Laboratories. They plan to examine 1200 individuals in Ontario in order to evaluate a diagnostic test for alpha-thalassemia. This work will determine if this test can be used to identify carriers of alpha-thalassemia, and also provide a much needed information on thalassemia carrier incidence in Ontario.

The second report is from Prof. Premysl Ponka at McGill in Montreal. The TFC grant supports a young investigator, Dr. Joan Buss under the mentorship of Prof. Ponka. Using a mouse experimental model, they study the cellular benefits of an iron chelator which was first discovered by Prof. Ponka. Their results can potentially be translated into clinical application.

The third report is from Dr. Volker Blank, also at McGill in Montreal. He and Dr. Mansouria Merad-Boudia, a post-doctoral fellow working in his laboratory, are investigating the basic genetic and molecular mechanisms of the "cross-talk" between the two main components of hemoglobin, i.e., heme and globin.

All three TFC grants support young and bright investigators to help them become the stars of tomorrow. I urge you to read these three informative and fascinating reports carefully.

Lastly, I like to thank especially Drs. Victor Blanchette, Alan Cohen, Brian Leber, George Sweeney, and Mr. Howard Leung for their willingness to energize the Foundation's research program to a national level. I am very grateful to have had the opportunity to work with and be friends of the men and women of this Foundation. The kindness and unselfish dedication of the late Mr. Chris Bennedsen will remain a shining guidepost for me.

David H.K. Chui, MD, FRCPC
Professor of Medicine and Pathology
Boston University School of Medicine

THALASSEMIA FOUNDATION OF CANADA RESEARCH GRANT UPDATE

I. ROLE OF HEME AND NF-E2 IN BALANCED GLOBIN GENE EXPRESSION.

The hemoglobin molecule, the major protein in red blood cells, contains globin, heme and iron. The coordinated production of globin and heme and uptake of iron is crucial for the normal functioning of red blood cells. The primary defect in patients with thalassemia is an imbalance between the different globin proteins. Our experiments are focused on the better understanding of the coordinated regulation of globin molecule production and the synthesis of heme. Our experiments have uncovered a cellular protein that is required for the increase of globin mediated by heme. We are using genetic and molecular approaches to investigate the exact nature of this crossregulation.

Recently, we succeeded in measuring extremely small amounts of globin molecules. We thus can detect globin synthesis in single cells, allowing us to characterize the molecular events in rare red blood precursor cells. Heme is considered as a possible treatment option for people with thalassemia, as it has been shown to have a positive effect on globin protein production. We hope that our study will lead to further insights into the regulatory mechanisms of globin production and to new and better therapeutic approaches for patients with thalassemia.

This grant from the Thalassemia Foundation of Canada is used to support the training of a postdoctoral fellow, Dr. Mansouria Merad-Boudia, who has made significant progress. She has submitted an abstract of her work to the American Society of Hematology and also attended the conference, which was held in December 2002 in Philadelphia. Mansouria is currently preparing a manuscript describing her work on the regulation of heme and globin synthesis.

Dr. Volker Blank, Montreal

II. EVALUATION OF A NEW LABORATORY ASSAY FOR THE DETECTION OF ALFA-THALASSEMIA TRAIT

Hb Bart's hydrops fetalis (alpha-thalassemia major) causes high-risk pregnancies that result in stillbirth. Early carrier detection through laboratory testing is of paramount importance in managing this syndrome. While reliable tests exist to detect carriers of other serious hemoglobinopathies, e.g. sickle cell anemia and alpha-thalassemia major, there is no reliable test to detect alpha-thalassemia trait, the carrier form of Hb Bart's hydrops fetalis.

Mr. John Lafferty (Hamilton Regional Laboratory Medicine Program) and Dr. David Barth (Princess Margaret Hospital) with the support of Dr. Mark Crowther (St. Joseph's Healthcare Hamilton), and Dr. Brian Sheridan (MDS Laboratories) are the principle investigators in a research study, evaluating the efficacy of a new laboratory assay for the detection of alpha-thalassemia trait. Over the next two years, the new assay will undergo a multi-centre study with 1200 subjects. The Thalassemia Foundation of Canada through a grant administered by the Father Sean O'sullivan Research Centre is funding the project. This research project will test the effectiveness of the new assay to determine how it behaves in the real world when compared to DNA analysis, the current gold standard.

Hb Bart's hydrops fetalis most commonly affects those of Southeast Asian origin. As many as 14 per cent of this population are carriers, i.e. have thalassemia trait. In Ontario, up to 600,000 people are at high risk for being carriers of the Hb Bart's hydrops fetalis gene, and the numbers are growing. Patients with alpha-thalassemia trait are not sick themselves, however if the abnormality is passed on to a baby from both parents it results in a high-risk pregnancy, difficult delivery and fetal death. The only known therapy is intra-uterine transfusion early in the pregnancy.

The key focus is to look at the most efficient and cost-effective way to deal with this disease. We want to be able to give parents the best information we can, to offer diagnostic and counseling services in a

timely manner so that they can be empowered to make the right choices best suited for them.

Current screening techniques for alpha-thalassemia trait are inadequate. They miss a high proportion of carriers, are labour intensive and observer dependent. A new test˜simple, rapid and suited for high volume screening programs˜has recently been developed, based on an immunological assay to detect human embryonic hemoglobin.

If the test proves to be effective, its implementation as a routine hemoglobinopathy test would improve the detection of Hb Bart's hydrops fetalis carriers, facilitating early detection of at risk couples. In non-prenatal cases the improved detection will help prevent erroneous medical intervention for iron deficiency in people who do not need it, and might be harmed by it.

The study has been running for just over one year and is ahead of schedule with 1000 of the 1200 subjects already entered. The incidence of alpha-thalassemia trait encountered in the study population is higher than predicted. The project is on track and will yield publishable data on the utility of this test and the incidence of the various forms of alpha-thalassemia trait in the Ontario population.

Mr. John Lafferty, Hamilton

III. INTRAERYTHROCYTIC IRON CHELATION DIMINISHES OXIDATIVE DAMAGE IN B-THALASSEMIC ERYTHROCYTES

Life on earth evolved about 3.5 billion years ago, when the primordial atmosphere contained almost no oxygen. During the first 1.5 billion years, organisms produced energy rather sluggishly, by oxygen-independent mechanisms. Photosynthesis by the ancestors of blue-green algae was responsible for the appearance of oxygen in the earth's atmosphere about 2 billion years ago. Following this crucial event, the vast majority of organisms have become addicted to oxygen which allows them to release almost 20 times more of the available energy from their food. Today, almost all organisms, with the exception of some bacteria, are absolutely dependent on oxygen for their survival. Complex organisms, such as mammals, have evolved a respiratory system and circulation in which red blood cells tirelessly circle all over the body. Red blood cells are tiny bags of a precious red protein called hemoglobin which carries oxygen from the lungs to tissues. Hemoglobin is comprised of two different pairs of protein chains called globin; these two different globin chains are known as alpha and beta. Each chain is associated with a red-coloured molecule, heme, containing iron which is inserted like a gem in its center; it is actually iron which binds and carries oxygen.

Red blood cells, or erythrocytes, live only approximately 4 months and have to be continuously replaced by new ones. This process is remarkably efficient and produces 2.5 million red blood cells every second which corresponds to roughly 600 kg of erythrocytes being made through the whole life. The formation of new red blood cells occurs in the bone marrow which is an amazing factory for making hemoglobin: normally it is assembled so efficiently that there is virtually no accumulation of its components, globin, heme or iron. In thalassemias, however, things go awry because of decreased production of either alpha or beta chain of globin due to genetic defects. Patients with severe types of thalassemia (so-called homozygous) would die of anemia unless they received regular transfusions. However, transfusions represent another serious danger. The iron that is present in the transfused red cells will accumulate in many crucial organs, causing their damage and eventually failure and death. Therefore, numerous laboratories all over the world attempt to improve known, or develop new, chelating agents; these are small molecules that can "catch" iron into its claws and eliminate it from the body.

Dr. Joan Buss, a post-doctoral fellow in Dr. Ponka's laboratory at the Lady Davis Institute of the Jewish General Hospital and McGill University in Montreal has embarked on the development of a novel and astute strategy for treatment of thalassemia. It is well known that the reduced or absent production of beta-hemoglobin subunits in beta-thalassemia results in a relative excess of unpaired, highly unstable alpha-globin chains which readily precipitate within erythrocytes. These reactive subunits promptly release their heme moieties, which liberate toxic redox-active iron in the vicinity of the membrane. Iron's decompartmentalization is exacerbated by its ability to catalyze the generation of reactive oxygen species that are extremely toxic. It is this grossly exaggerated, iron-triggered damage of membrane components which plays a critical part in the short-

RESEARCH GRANT UPDATE - CONT'D

ening of life of red blood cells of patients with thalassemia. Hence, Dr. Buss decided to investigate whether chelating agents, compounds which can bind iron and inactivate it, could improve cell status and prolong the survival of erythrocytes in the circulation.

Towards this goal, Dr. Buss succeeded in preparing erythrocytes loaded with alpha-globin chains in an attempt to generate "model" beta-thalassemic red blood cells. She has extensively characterized these model cells and demonstrated that they exhibit abnormally rapid hemoglobin oxidation, excessive membrane-bound iron, increased lipid peroxidation and decreased antioxidant capacity, changes that are known to occur in actual human beta-thalassemic cells. She evaluated various standard and novel iron chelators for their respective abilities to improve oxidative parameters of the red blood cells. Highly encouragingly, Dr. Buss found that all compounds tested, particularly those of the pyridoxal isonicotinoyl hydrazone family (developed in Dr. Ponka's laboratory) proved extremely effective in diminishing iron burden and oxidative insult in the model thalassemic cells. To assess the physiological effects of chelating agents in the orgaqnism, Dr. Buss currently studies the effects of pyridoxal isonicotinoyl hydrazone and similar compounds following their administration into mice transplanted with homozygous beta-thalassemic murine bone marrow. We anticipate that interception of intraerythrocytic iron in these genuinely pathological red blood cells will deplete deposits of the metal and attenuate the ineffective erythropoiesis observed in murine beta-thalassemia. This pharmacological approach, by extension, should enhance mature red blood cell survival in humans suffering from thalassemia, thereby decreasing their need for transfusion therapy and, ultimately, improving their quality of life.

Dr. Joan Buss conducted her graduate studies in the laboratory of Professor Brian Hasinoff at the Faculty of Pharmacy, University of Manitoba. During her doctoral research she studied the mechanism of action of dexrazoxane, a drug which, in its active form, binds iron and diminishes its participation in the production of toxic free radicals. She is currently a postdoctoral fellow in the laboratory of Professor Prem Ponka where she continues her studies of iron chelators as therapeutic agents. Thus far she has published 10 articles in prestigious international journals and attended scientific conferences in various cities in Canada and in Cairns, Australia, London, England and Bethesda, USA where she presented results of her work. This is a remarkable achievement for a scientist at this stage of her career. She is an enthusiastic young researcher fully devoted to her work and it can be predicted that she will successfully accomplish her goal to develop a new therapeutic strategy for treatment of thalassemia.

Prof. Premysl Ponka, Montreal

MANAGEMENT OF BETA-THALASSEMIA MAJOR IN THE NEW MILLENNIUM - THE EUROPEAN PERSPECTIVE

On Sunday, May 11, 2003 we were honoured to host Dr. Beatrix Wonke as she presented the European perspective of Thalassemia care, treatment, diagnosis and research. Dr. Wonke is Director of Thalassemia Services at the Whittington Hospital; London, UK and possesses over 30 years of experience with Thalassemia. She was able to accommodate her talk during her brief stay in Toronto. She spoke to patients, parents and Thalassemia health care workers. Her talk consisted about the various chelation therapies presently given to Thalassemia patients in the UK. Also discussed was the successful implementation of combination therapy using Desferal and L1 at her clinic. Discussion of the new T2* MRI technique for assessing iron burden in the heart. Please stay tuned to our website (www.thalassemia.ca) where parts of her presentation will be available online. We again would like to graciously thank Dr. Wonke for allowing time in her hectic schedule for her informative talk. Also, acknowledgment to Acrobat restaurant lounge for graciously providing us with the facilities, food and refreshments afterwards.

Dr. Beatrix Wonke (3rd from right) with members of Thalassemia Foundation at Acrobat restaurant lounge.

PATIENT/PARENT MEETING WITH DR. BEATRIX WONKE - TORONTO

Mother's Day was more than flowers and chocolates for some people this year. Thalassemia patients, parents, doctors and scientists came together to hear Dr. Beatrix Wonke, from London, England, speak about living with the disorder. Her talk, entitled Management of B-Thalassemia Major in the New Millennium (U.K. and European Experience), was held at Acrobat Lounge on Yonge Street in Toronto.

Dr. Wonke is one of the most renowned doctors in the U.K. caring for Thalassemia patients. She came to Canada to present at a conference in Vancouver. Her stopover in Toronto was a bonus; she was asked to give a short talk and she mentioned that she tries to never say no. The Toronto group is thankful for this. She presented facts from studies she is either involved with or knows about. After her talk, she fielded questions from the audience.

Dr. Wonke giving her presentation to audience

Dr. Wonke made sure that people understood that she sees a positive future for Thalassemics. With the creation of new Desferal pumps and better needles, it is easier and less painful for patients to be compliant. She and her colleagues are studying how chelators can be even more successful in removing iron from vital organs. She mentioned that Desferal given over a 24-hour period seems to work best- but may not be possible for all patients.

Although Dr. Wonke held a very informative talk, there were certain main points that were continuously stressed. One is that, in her opinion, the best form of chelation therapy would involve both a pill and a needle. She believes that combining an oral chelator (like L1) along with Desferal would benefit patients most. L1 is available in Europe and the U.K., but it has not been approved by the FDA for use in North America. There are apparently a number of oral chelators in the works for Thalassemia patients. They are all still in the study stage, but doctors and scientists are hopeful that they will become available shortly.

Dr. Wonke also mentioned that while MRI tests are helpful for determining liver iron levels, they do not give good readings for iron accumulation in the heart. She is suggesting that another type of test, called an MRI T2*, would give doctors a better idea of iron overloading in any organ. The machine for this other MRI is available in Canada; it is just a matter of training a technician to conduct the test.

In her presentation, Dr. Wonke also briefly discussed problems with puberty, Diabetes, and Osteoporosis.

The Thalassemia Foundation of Canada is indebted to Dr. Wonke for taking the time out of her busy schedule to speak with us. Not only was her talk informative, but it gave hope to all patients for their future care.

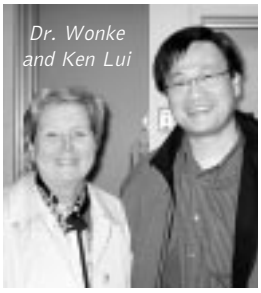
Stephanie Polsinelli

DR. WONKE MEETING VANCOUVER

The meeting was held on May 17/03 at Children's Hospital in Vancouver. Ken Lui opened the meeting and welcomed everyone and thanked them for taking the time off to attend. He then thanked to Dr. Wonke for coming all the way from England, so the Thalassemia patients in Vancouver could benefit from her visit. Thanks also went to their sponsor, Apotex Canada, in providing the grant for this worthwhile event. And most of all thanks went out to Dr. Wu and his medical staff that made this all this possible.

Ken reiterated that the Society has the following mission and objectives:

1 To support our members to learn more about this blood disorder and how to cope with it.
2 To support any research activities that will eventually benefit our patients.



Dr. Wonke and Ken Lui

The agenda was then introduced. A short video of Cooley's anemia was first shown to the audience. The following speakers each made a short speech sharing their experiences from their own perspective: Joanne Hawkins-Nurse Perspective, Kaveh Ordubadi-Patient Perspective, Rajinder Srah-Parent Perspective, Jocelyn Lessard-Psychology Perspective, Dr. John Wu-Doctor Perspective

Finally Dr. Beatrix Wonke made a presentation that was not only very informative. The message was also quite hopeful and positive. The audiences were so interested in the message and some of the clinical results. A "Q&A" was quite a lively discussion.

FROM THE OFFICE OF DR. NANCY OLIVIERI

An 18-year-long civil war between government troops and Tamil rebels has killed more than 64,000 people and had severe repercussions on every aspect of Sri Lankan life. The economy was in shambles, the education system had totally shut down for more than three of the last ten years, and the health care system was overloaded with wartime casualties, but undersupplied with everything else. In the midst of this chaos, I came to understand and admire the determination of two colleagues to elucidate a single aspect of this nation's crisis.

A room full of smiles from the patients waiting to see Drs Weatherall and Olivieri

Where, in an atmosphere of such turmoil would you expect to start making a difference? In 1995, amid the bombing and malaria, David Weatherall and Nancy Olivieri decided to start with what they were best at.

Thalassemia had long been identified as a major health burden in Sri Lanka, but years of civil war had arrested the medical profession,s ability to properly treat the condition. In the mid-nineties, a single thalassemia transfusion unit existed in the country. It was the physician in this unit who first invited David Weatherall to help assess the hundreds of thalassemia patients this clinic was treating. Dr. Weatherall quickly decided on the two immediate requirements of this responsibility: 1) more help, and 2) frequent visits.

Clinic staff posing in front of the new Thalassemia Unit. Back row (L to R) David Weatherall, Anuja Premawardhena, Mahinda Arambepola, Laura Merson, Shanthimala DeSilva. Front row (L to R) Patients who also work as clinic staff including Chandany, Karuna, and Malanie, and the Ward Sister.

For over 6 years now Drs Weatherall and Olivieri helped the Sri Lankan paediatricians diagnose and treat some of the 400+ thalassemia patients seen at the Kurunegala Teaching Hospital. They have visited thalassemia clinics from Anuradapura to Badulla, provided DNA diagnosis for more than 700 patients, and worked to educate doctors around the country about the clinical management of thalassemia. In June 2003, Dr. Weatherall will open the new Kurunegala Hospital Thalassemia Unit for which he has been raising money since he first arrived. The unit will host a laboratory for blood sample analysis, a library of materials for doctors and patients, a hall for patient meetings and education sessions, and a separate floor for paediatric and adolescent patient care.

As is true of all good clinical care, research has developed from the experience gained by this program. A number of papers have been published due to joint efforts of Sri Lankan, UK, and Canadian expertise. In addition, a 5-year comprehensive analysis has been done of the natural history of E Beta thalassemia. In the past, this condition has been treated in variable ways all over the world due to lack of understanding about how it works. Over 100 patients with E Beta thalassemia in the Kurunegala clinic have allowed for an in-depth examination of how this condition progresses and the best way to treat it.

Many initiatives to improve the quality of life for Sri Lankan thalassemia patients have been pursued by these two doctors inside and outside of the laboratory. Still, the oldest thalassemia major patient in the Kurunegala clinic is 19 years. The absence of pumps to deliver chelation has denied children the hope of growing up. In response, a program to provide desferal pumps for those who are not able to purchase them has begun.

Laura Merson

UNIVERSITY HEALTH NETWORK HEMOGLOBINOPATHY RESEARCH PROGRAM: CURRENT AND UPCOMING STUDIES IN THALASSEMIA

AUGMENTATION OF FETAL HEMOGLOBIN IN B-THALASSEMIA (AKA: LEPORE STUDY)

The Lepore study uses oral or injected medicine instead of blood transfusion to increase the hemoglobin of b-thalassemia (intermedia or major) patients. The drugs used in this study are sodium phenylbutyrate, hydroxyurea, and cytosine arabinoside. These drugs may increase total hemoglobin by causing fetal hemoglobin production. A total of 22 patients participated in this study. In 7 out of 12 patients who finished taking at least 2 of the study drugs, hemoglobin increased more than 15 g/L. Two thalassemia major patients are still participating in the trial and have been off regular transfusion for 3 years. We are not currently enrolling patients into this study, but its results will lead to the development of new studies using the drugs that worked best. For more information on this and related studies please contact Cecilia Kim at cecilia.kim@uhn.on.ca or 416-340-4800 x 6789.

HEMOGLOBIN E/B-THALASSEMIA: A NATURAL HISTORY (AKA: E-THAL NATURAL HISTORY STUDY)

This study gathers information about patients with Hemoglobin E/b-thalassemia in order to better understand the natural course of the disease. E/b thalassemia has a wide range of medical outcomes. This study will look at the medical differences between the many different types of E/b thalassemia to find out which genes or blood levels cause which medical problems. Results from this study have shown that may patients with E/b thalassemia can be healthy without transfusion. Results have also highlighted the importance of erythropoietin in red cell production for this patient group. For more information on this study please contact the study coordinator Cecilia Kim at cecilia.kim@uhn.on.ca or 416-340-4800 x 6789.

NON-TRANSFERRIN-BOUND PLASMA IRON AND DEFEROXAMINE THERAPY: PART II (AKA: PORTER II)

The purpose of this study is to look at the factors that control a very toxic form of iron, called non-transferrin-bound plasma iron (NTBPI). NTBPI builds up in the blood of all patients with beta-thalassemia, even those that do not receive regular blood transfusions. NTBPI is taken up into organs such as the heart where it can cause damage. The study involves a 24-hour infusion of deferoxamine (DFO) and examines the interactions between DFO and NTBPI. Study results have helped to show which dose of DFO prevents NTBPI build-up, and therefore how much DFO works best for patients with different iron levels. For more information on this study please contact the study coordinator Cheryl Ethier at cheryl.ethier@uhn.on.ca or 416-340-4800 x 6750.

MISSION STATEMENT

The Thalassemia Foundation of Canada is a non-profit organization dedicatied to providing awareness, knowledge and support to patients, members and friends of Thalassemia

NON-TRANSFERRIN-BOUND PLASMA IRON AND DEFEROXAMINE THERAPY: PART III (AKA: PORTER III)

Like the Porter II study, Porter III also examines how DFO protects the body from NTBPI. In addition, this study looks at how vitamin C levels affect this interaction. The right levels of Vitamin C can help DFO to remove iron by making it more available for the chelator to attach to. This study includes chelated patients who start with low vitamin C levels, then take supplements to bring those levels up to normal. The interaction between DFO and NTBPI is looked at over two 24-hour DFO infusions; one when the patient has low vitamin C levels, and one when the patient has normal vitamin C levels. These two are compared to show exactly how vitamin C works to help DFO remove iron. For more information on this study please contact the study coordinator Cheryl Ethier at cheryl.ethier@uhn.on.ca or 416-340-4800 x 6750.

MULTI-CENTER NATURAL HISTORY STUDY OF IRON OVERLOAD (AKA: IRON OVERLOAD STUDY)

Patients with b-thalassemia major (BTM) and sickle cell anemia (SCA) may receive regular blood transfusions to treat anemia and prevent complications. The problem with transfusion therapy is that it causes a build-up of iron in the body that can reach toxic levels and lead to cell damage in the heart, liver, or other organs. The purpose of this study is to compare how iron builds up in BTM and SCA patients and what medical problems the iron causes in the two groups. An earlier study by Dr. E. Vichinsky, Children,s Hospital Oakland, compared 35 thalassemia and 45 sickle cell anemia patients with iron overload. The results of this study showed that between the patients with BTM and SCA with the same levels of iron build-up, the thalassemia patients were more likely to have heart disease, endocrine problems, and liver damage. It is important to determine how these patients load iron in order to find ways to protect them from the organ damage that the iron may cause. For more information on this study please contact the study coordinator Giulia Muraca at giulia.muraca@uhn.on.ca or 416-340-4800 x 6796.

THALASSEMIA CLINICAL RESEARCH NETWORK REGISTRY (AKA: THALASSEMIA REGISTRY)

This study gathers information from patients with thalassemia and other related blood disorders into a combined registry (database). Patients from the top five thalassemia centers in North America will be invited to participate. With information about a large group of patients, doctors can answer questions that are hard to determine in a smaller group. There are 218 Toronto patients participating in this study and a total of 528 patients from across North America. The registry will help doctors learn more about the disease and its complications, and will help to determine possible candidates for future Thalassemia Clinical Research Network studies. For more information about this study please contact the study coordinator Giulia Muraca at giulia.muraca@uhn.on.ca or 416-340-4800 x 6796.

UPDATED WEB SITE DESIGN

The Thalassemia Foundation announces the launch of a newly designed website at www.thalassemia.ca. The updated design allows for ease of use. In addition, the home page offers direct access to frequently visited areas of the site. These "Quick Links" can be found at the left side of the home page. Stay tuned for more improved changes including a picture gallery in the months to come. Special thanks to Donald Dilallo, for all his hard work and commitment to this project.

CROSS-SECTIONAL OBSERVATIONAL STUDY OF LOW BONE MASS IN THALASSEMIA (AKA: LOW BONE MASS STUDY)

People with thalassemia and other related blood diseases have an increased risk of low bone density because their bone marrow expands to make extra red blood cells. This expansion makes the bone less solid and more likely to fracture or cause growth problems. Out 0f 440 patients that were enrolled on the Thalassemia Registry, low bone mass was found in 24% of patients less than 11 years old, 73% of patients 11-20 years old, and 85% of patients 20 years or older. The purpose of this study is to use the most up-to-date form of bone mineral density (BMD) scan to look closely at the number of patients with low bone mass. The study will also test proteins and hormones in the blood and urine to determine the factors that can lead to low bone density and how best to treat it. For more information on this study please contact the study coordinator Giulia Muraca at giulia.muraca@uhn.on.ca or 416-340-4800 x 6796.

TREATMENT OF LOW BONE MASS WITH COMBINATION PAMIDRONATE THERAPY + CALCIUM & VITAMIN D VERSUS CALCIUM AND VITAMIN D ALONE (AKA: LOW BONE MASS TREATMENT STUDY)

The purpose of this study is to find the best treatment for low bone mass in thalassemia by comparing the top two treatments. Pamidronate is a drug that stops bones from becoming weak by preventing bone breakdown. The combination of calcium and vitamin D has also been shown to help strengthen bones by building up bone tissue. This study will look at which combination of these treatments is the most effective way to keep bones strong. A recent British study treated 34 osteoporotic thalassemia patients with intravenous (IV) pamidronate and showed an improvement of the bone mineral density (BMD) in the spine. This drug is being widely used in non-thalassemic adults with low bone mass who want to avoid the upset stomach that often occurs with other bone strengthening medications taken by mouth. For more information on this study please contact the study coordinator Giulia Muraca at giulia.muraca@uhn.on.ca or 416-340-4800 x 6796.

A RANDOMIZED, COMPARATIVE, OPEN LABEL TRIAL ON EFFICACY AND SAFETY OF LONG-TERM TREATMENT WITH ICL670 COMPARED TO DFO IN BETA-THALASSEMIA PATIENTS WITH TRANSFUSIONAL IRON-OVERLOAD. (AKA: ICL670-107)

People with thalassemia major require regular red blood cell transfusions to keep them healthy. Repeated blood cell transfusions, and the breakdown of red blood cells, results in the build-up of iron in vital organs. Subcutaneous or intravenous Desferol is currently used to get rid of extra iron in the body. However, this therapy can be painful and difficult to take. An oral chelator, such as ICL670, would be easier to administer and may improve compliance and quality of life. The purpose of this study is to determine the safety and efficacy of long-term treatment with ICL670 compared to subcutaneous Desferol in thalassemia patients with transfusional iron overload. For more information on this study please contact the study coordinator Cecilia Kim at cecilia.kim@uhn.on.ca or 416-340-4800 x 6789.

ICL 670A ANCILLARY - CONTROL OF OXIDANT-STRESS INDUCED INJURY AND MITOCHONDRIAL DYSFUNCTION BY TREATMENT WITH IRON CHELATORS (AKA: ICL 670 ANCILLARY)

It is not known exactly how iron causes damage in organs, but it is thought that a part of the cell called the mitochondria is involved. Iron build-up can lead to damage in the mitochondria which may lead to cell death. The purpose of this study is find out how well the oral iron chelator, ICL670 controls cell damage compared to DFO. This ancillary study is designed to include patients who are already enrolled in the ICL670 107 study. For more information on this study please contact the study coordinator Cecilia Kim at cecilia.kim@uhn.on.ca or 416-340-4800 x 6789.

HEPATITIS C CLINICAL TRIAL (AKA: HEPATITIS C STUDY)

The combination of peginterferon alfa-2a and ribavirin is currently the most effective way to treat hepatitis C. Because of the side effects caused by these drugs (including the breakdown of red blood cells), they are not used in patients with thalassemia. The purpose of this study is to find a safe way to treat thalassemia patients who have hepatitis C with this effective therapy. Because the treatments may cause an increased need for transfusion, liver iron levels will be looked at closely to make sure that they do not go up due to the extra blood. Treatment will be either 24 or 48 weeks depending on the kind of hepatitis C the patient has. Two studies have already treated 29 thalassemia patients for hepatitis C with this combination therapy. After 24 weeks of treatment one study showed that 46% of patients had no more hepatitis C, and the other study showed that 72% of patients had no hepatitis C. For more information on this study please contact the study coordinator Cheryl Ethier at cheryl.ethier@uhn.on.ca or 416-340-4800 x 6750.

FUTURE PROJECTS

The hemoglobinopathy research program is also pursuing research grants for projects focusing on genetic differences in hemoglobin E-thalassemia, magnetic resonance imaging (MRI) and iron detection, and hepatitis C natural history. For more information on upcoming studies, please contact Laura Merson at laura.merson@uhn.on.ca or 416-340-3979.

SONS OF ITALY
Saturday, April 5, 2003- Niagara Falls, Ontario

On Saturday, April 5th, some board members attended the annual "Golden Lion Gala" organized by the Order Sons of Italy and held at the beautiful Club Italia Lodge #5 Banquet facility. Special guests included The Secretary of State (International Financial Institutions), the Honourable Maurizio Bevilacqua and The Royal Canadian Mounted Police Commissioner Giuliano Zaccardelli.

Connie Bennedsen (2nd from right) with friends and Board members of Thalassemia Foundation of Canada

Both spoke with inspirational pride about the impact Italians have had on Canada during its social and economic development. It was a truly grand event and a great venue of speakers. It was a small token for us to participate to show our appreciation of the countless charitable events that the Order Sons of Italy hosts for the Thalassemia Foundation of Canada.

TIF REPORT

TIF 2003 CONFERENCE

We are well into the middle of 2003 and time is fast approaching for TIF bi-annual International Conference. The 11th International Thalassemia Patients and Parents Conference will be held on October 15th-19th concurrent to the scientific programme of the 9th International Conference on Thalassemia and the Haemoglobinopathies. The venue for both events will be the Hotel Citta, del Mare in Palermo on the magnificent island of Sicily in Italy.

I encourage all thalassemia patients and their parents to attend the conference to learn more about the latest on thalassemia and enjoy an exciting experience. Presentations by lead researchers, scientists and physicians will cover all aspects of thalassemia and its complications. A long session is allotted for discussions on psychosocial matters promises to be very interesting and of great importance to parents and patients. Topics will be on concerns shared by all thalassemia children, adult patients, and their family members.

I invite you all, on behalf of TIF, to join your Thalassemic friends at the conference and I welcome you to share a joyous time with the greater global thalassemia community. For more information on the conference and details of the preliminary programme visit www.tif2003.org. If you have any questions on the conference or TIF please call me at (416) 228-9993 or e-mail: riyad@thalassemia.ca.

TIF 2003 ACTIVITIES

The tense dramatic war in the Middle East earlier in the year and fears of the SARS epidemic around the world has caused changes and delays in plans for many of us this year. Nevertheless TIF Office Staff has been working diligently with the assistance of TIF Board members to achieve all objectives set for 2003.

TIF Board Meeting will be held on June 27th-29th in London, England. TIF Board Members and TIF Delegates will meet to finalize the last details of the upcoming international conference and to proceed with projects and activities that are well under way. Also the Board Members will discuss plans for workshops and delegation visits planned for 2003 and 2004.

Delegation visit to Bangladesh is planed for August 21-23 of this year. Also National workshops are in the planning for later in the fall to be held in major centres in India and Pakistan. Over the last years focus has been on strengthening relations with countries in Southeast Asia and the Pacific Rim regions. This will enhance TIF,s effort to establish national collaborating committees in countries of the regions. Part of the functions of such committees will be to organize educational events to help promote prevention and improve clinical care for thalassemia patients according to the specific needs of each country.

Awareness and Education has always been high priority on TIF activities list. Many of TIF publications are translated to a number of languages. A large shipment of books translated to Italian was sent to Argentina earlier this year. The most known and highly demanded TIF publications are now available to download from TIF web site www.thalassaemia.org. New addition to these informative publications is a first of two volumes on the prevention of thalassemia will printed soon. This new guide tool is aimed to encourage the implementation of prevention policies worldwide.

TIF Board Members has recently approved a new pilot project on MRI. A group of cardiologists, haematologists and paediatrics with expertise on using MRI to assess heart iron will work together on this project. The goal of the project is to determine which of the two parameters used to measure heart iron MRI T2 or MRI T2* is most effective. Also this new MRI T2* will allow medical centres across the world produce comparable test results.

TIF has started a new project designed to compile data on endocrine and blood safety from thalassemia treatment centres across the world. Also TIF donated $15,000.00 USD worth of medical supplies to thalassemia patients in Iraq. TIF has been recognised on a number of occasions by World Health Organization (WHO) as an international organization working effectively towards prevention and improving care for Thalassemia. TIF is working towards collaboration with WHO on many projects.

I hope that I would see many of you at TIF International Conference in Palermo. I wish you all a safe and happy summer, and I thank you for your continuous support in our fight against thalassemia.

Riyad Elbard

UPCOMING EVENTS, FUNDRAISERS AND CONFERENCES

- Roma Group of Companies Golf Tourn. - July 23/03
- Fashion Show Accesso Restaurant (Proceeds to Thalassemia Foundation) - Thursday, July 24th, 2003 contact Acceso restaurant for details 416.487.9500
- National Anemia Patient Conference -September 20-21, 2003, Toronto
- Oct 4 2003 - Sons of Italy Dinner/Dance at Villa Monaco. This event is being held in honour of Chris and Connie Bennedsen.
- TIF 2003 International Patient and Parent Conference - October 15-19 2003 Palermo Sicily, Italy (www.tif2003.org)
- Guelph Dance - November 1, 2003
- 15th Annual Valentine Dinner Dance - February 14, 2004 Royalton Banquet Hall

WINNIPEG CHAPTER UPDATE

The chapter flew President Rose Pallone and Leo Umphrey to Toronto to attend the Valentine's dance in February 2003 to present the Thalassemia Foundation of Canada with a donation for Thalassemia research.

Rose has been very pro-active in assisting nurses within the Winnipeg clinic with providing information regarding thalassemia and infusion therapy. She is also speaking to thalassemia patients about thalassemia and how important it is to be compliant with Desferal treatment.

This summer the chapter is planning a fundraiser event, stay tuned for details.

Congratulations to President Rose Pallone who was married on May 3, 2003. Best wishes go to Rose and her husband Leo.

On behalf of the Thalassemia Foundation of Canada Winnipeg Chapter, God Bless

THE ROMA GROUP OF COMPANIES 7TH ANNUAL GOLF TOURNAMENT

Being held on Wednesday July 23, 2003 at Kleinburg Golf and Country Club and Villa Monaco Banquet Hall. Proceeds benefit thalassemia research.

For more information, please contact Christina Marra 416-798-7566.

CHANGE OF ADDRESS

Please send change of address to:
Thalassemia Foundation of Canada
32 Fern Avenue, Weston, Ontario M9N 1M2

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Write Us
Thalassemia Foundation of Canada
32 Fern Avenue, Weston, Ontario M9N 1M2
Phone: (416) 242-8425 Fax: (416) 425-6354
Email: info@thalassemia.ca
Website: http://www.thalassemia.ca

Editor: Angela Covato, acovato@thalassemia.ca

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