A Short History of the BMT and the CBMTG
Lothar Huebsch, Ottawa
The First 1000 Allogeneic Transplants in Canada
Hans Messner, Toronto
Presentation of the CBMTG Special Recognition Award to Hans Messner
Andrew Daly, Calgary
From the Beginnings to Now and Beyond: The CBMTG Story

1. A Brief History of BMT in Canada prior to the 1980s
2. The CCBMTSG and CBMTG over the last 30 years
3. Thoughts on where to from here

“History is that certainty produced at the point where the imperfections of memory meet the inadequacies of documentation”

- Julian Barnes
Manhattan Transfer: The Transition in Science from the Age of Physics to the Age of Biology: Trinity, 1945
The Atomic Bombs: 1945

Hiroshima and Nagasaki
Cold War Realities: The Cuban Missile Crisis 1962
Nuclear Accidents: 1952 and 1958

Chalk River, Ontario

Vinca, Jugoslavia
Nuclear Accidents:

Reactor 4, Chernobyl, Ukraine, USSR 1986
Recovery From Marrow Failure after Exposure to Ionizing Radiation: Mechanisms?

Recovery by way of a ‘radiation recovery factor’ (molecules)
Jacobsen et al
OR
Recovery by way of ‘multi-potent stem cells’
Lorenz et al

BMT in mice as an experimental technique to decide on this question

1944-1955
The First Allogeneic Transplant in Canada: 1958

ATTEMPTED HOMO-TRANSPANTATION OF BONE MARROW IN A PATIENT WITH LEUKÆMIA°

The First Autologous Transplants in Canada: 1960

EFFECT OF AUTOLOGOUS BONE MARROW ON THE CYTOPENIAS INDUCED BY NITROGEN MUSTARD

Ottawa, Ont.

In 1949, Jacobson et al. demonstrated the protective effect of spleen shielding in mice exposed to doses of total body irradiation which were lethal to unshielded mice. Intravenous injection of homologous bone marrow in mice and guinea pigs protected the animals against lethal doses of irradiation. The mechanism of this protection was shown to be attributable to regeneration of bone marrow.

Infusion of homologous marrow, these techniques cannot be used to judge the function of infused autologous marrow. The present investigation was planned to study the effects in patients of an infusion of fresh autologous bone marrow on the cytopenias which result from a single intravenous infusion of nitrogen mustard (methyl bis(2-chloroethylamine) hydrochloride) in a dose of 0.4 mg per kg of body weight.

MATERIALS AND METHODS

Ten patients with malignant diseases which might be palliated by treatment with nitrogen mustard were selected for inclusion in the study. With the exception of one patient who had received nitrogen mustard four months previously,

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Fig. 2.—Total white blood cell count.
A Direct Measurement of the Radiation Sensitivity of Normal Mouse Bone Marrow Cells

J. E. TILL AND E. A. McCULLOCH

Department of Medical Biophysics, University of Toronto, and the Divisions of Biological Research and Physics of the Ontario Cancer Institute, Toronto, Ontario

INTRODUCTION

Evidence is accumulating that the proliferative capacity of mammalian cells has a uniformly high radiation sensitivity regardless of the species and tissue of origin. The evidence derives from experiments on fresh explants and established cell lines in tissue culture (1-4), and on transplantable tumors in vivo (5) where single-cell techniques have been applied. Further, experiments using an indirect technique to measure the sensitivity of normal mouse bone marrow indicated that these cells have a radiation sensitivity of similar magnitude (6). In the present report a direct method of assay for these cells with a single-cell technique will be described.

The method is based on the fact that the intravenous injection of an appropriate number of marrow cells into isologous hosts previously exposed to supralethal total-body irradiation leads to the formation of colonies of proliferating cells in the spleens of these animals. These colonies appear as gross nodules in the spleen, which may readily be counted. The relationship between the number of cells injected and the number of colonies appearing in the spleen has been determined and used to study the sensitivity to radiation of the proliferative capacity in vivo of normal adult mouse bone marrow cells irradiated in vitro. The results show that normal mouse bone marrow cells have a similar radiation sensitivity to other mammalian cells tested by very different methods.

EXPERIMENTAL PROCEDURES
Prof. James Till, Yoshi Niho, Gerry Price, Connie Eaves, Hans Messner and Bertie Aye
The First Canadian Transplant with Demonstrated Engraftment

E.A. McCulloch

John Darte
Review of 206 cases in the literature: 3 survived

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Mortimer Bortin

Transplantation, 1970
Medical Progress

Bone-Marrow Transplantation (First of Two Parts) .............................................. 832

E. Donnall Thomas, Rainer Storb, Reginald A. Clift,
Alexander Fefer, F. Leonard Johnson,
Paul E. Neiman, Kenneth G. Lerner,
Harold Glucksberg and C. Dean Buckner
One Hundred Patients With Acute Leukemia Treated by Chemotherapy, Total Body Irradiation, and Allogeneic Marrow Transplantation

By E. Donnell Thomas, C. Dean Buckner, Meera Banaji, Reginald A. Clift, Alexander Fefer, Nancy Flournoy, Brian W. Goodell, Robert O. Hickman, Kenneth G. Lerner, Paul E. Neiman, George E. Sale, Jean E. Sanders, Jack Singer, Mary Stevens, Rainer Storb, and Paul L. Weiden

Fig. 1. Kaplan-Meier product limit estimate of the probability of surviving on a logarithmic scale in per cent for 100 patients. Living patients are indicated by open circles.
BMT In Canada: Medicine and Politics

1975: NEJM Review Articles
1976: Canadian Hematology Society invites ED Thomas
1977: CHS asks McCulloch to review options for introduction of BMT into Canada
1979: Report to CHS to establish 3 BMT centres (East, Center, West), 30 beds for 225 transplants per year

“......it should not be taken to mean that all who participated necessarily support the major conclusions and recommendations of the study.”

1980: The national strategy envisioned by CHS was abandoned
I. EXECUTIVE SUMMARY

A. Introduction

This report is the product of a unique national planning process, made possible only through the active participation of many professionals, all Health Sciences Centres in Canada, as well as federal and provincial health authorities. Any attempt to develop a rational, cost-effective plan for marrow transplant services in Canada faces many pitfalls. Only with the dedicated patience and co-operative efforts of these individuals and organizations could this complex and controversial process be brought to fruition. While their individual contributions were essential to the conduct and successful completion of this study, it should not be taken to mean that all who participated necessarily support the major conclusions and recommendations of the study. Please refer to Appendix I for the list of participants.
PROPOSAL TO ESTABLISH A
NATIONAL MARROW TRANSPLANTATION CENTRE
AT THE McMaster DIVISION
OF CHEDOKE-McMaster HOSPITAL
Expansion of BMT In Canada: 1980-1982

- Vancouver: Noel Buskard, Ka Wah Chan
- Calgary: James Russell
- Winnipeg: Marlis Schroeder
- Hamilton: Michael Brain
- Toronto (PMH): Hans Messner
- Toronto (HSC): Fred Saunders
- Ottawa: Lothar Huebsch
- Montreal (McGill): Witek Rybka, Penny Kosh
- Montreal (UofM): Martin Gyger
Initial Informal Meetings:

- Ottawa Athletic Club 1981
- Royal College meeting in Toronto in 1982–decision to form CCBMTSG
- Grant applications (EMR, CMV, CML outcomes)
- CBMTG National Conference Toronto 1985
- Meetings at Royal College/Canadian Hematology Society
- Keystone Meetings
- ASH
- EBMT
AGENDA FOR THE MEETING OF THE CANADIAN COOPERATIVE BONE MARROW GROUP, ROOM 227, HOTEL VANCOUVER,

SEPTEMBER 10, 1985, 1800-2100

1800-1900 Reception

AGENDA

1900-1915 1. Record System for Data from Canadian Cooperative Group for Bone Marrow Transplantation

Hans Messner

1915-1930 2. National Proposal for Use of Anti-leukemic Monoclonal Antibody in Bone Marrow Transplantation

Julia Levy/Hans Messner


Hans Messner

1945-2000 4. Proposed "Randomized" Trial of Chemotherapy vs BMT in Poor Prognosis ALL in First Remission

Gordon Phillips
Canadian Bone Marrow Transplant Group

CBMTG (allo, auto, pediatric groups) was agreed, San Antonio, ASH 1988.

Incorporation Ottawa Dec 1989

Initial Funding from NCIC, Health Canada (unrelated donor outcomes)
IVGAM in BMT (J. Meharchand, Canadian Red Cross, 1989)

The first 1000 transplants project. (Messner et al)

Establishment of a Secretariat, Malachite, Vancouver
December 4, 1988
17:00 h
San Antonio, Texas

Canadian Bone Marrow Transplant Study Group


1. The future of the Canadian Bone Marrow Transplant Study Group was discussed. It was decided that the functions of the organization and the relationship of the group should be formalized in a written set of by-laws. Included in this document should be:
   i) the relationship of the group to the Canadian Hematology Society
      the IBMTR
donor registries
government
red cross

   ii) define an executive

It was agreed that the group should be a subcommittee of the CHS and that it should play an advisory role to the government on matters relating to bone marrow transplantation through the CHS.

The by-laws will be developed by Dr. Messner.
IN WITNESS WHEREOF we have hereunto set out hands at Atlanta Georgia on the 2nd day of December, 1989.

MICHAEL C. BRAIN

KA WAH CHAN

MARTIN GYGER

LOTTHAR B. HUEBSC

ARMAND KEATING

LOREE M. LARRATT

Pierre Leblond

Hans Messner

Gordon L. Phillips

James Russell

Witold Rybka

Fred Saunders

T Simpson Shore

Anne Smith
The CBMTG as a Clinical Trials Group: Randomized Studies

PBSC versus BM in Related Donor Allogeneic BMT:
Simpson and Couban et al, NEJM

PBSC versus GCSF-Stimulated Marrow:
Schultz and Couban et al, Lancet Oncology

ATG vs No ATG in Unrelated Donor Transplants
Walker et al, BBMT
The CBMTG and Advocacy

Involvement in initial stages of unrelated donor registries (Canada, USA)
(Vancouver, Ottawa then UBMDR, One Match)

Introduction/maintenance of accreditation (CSA/Health Canada, FAHCT)

Royal College and special area of competency

Advocated for the establishment of a National Cord Bank
The CBMTG and Education

National Meetings every 2 years since 1988
A forum for Nursing, Laboratory and Pharmacy colleagues
As an applicant for Certificate of Competency in BMT at RCPSC
Supportive of Small Pilot Research Grants to Trainees
National Registry to answer questions on outcomes, trends in BMT
Regular Webinars on wide range of current topics
So what of the Future for the CBMTG?

"I always avoid prophesying beforehand because it is much better to prophesy after the event has already taken place."

Winston Churchill
THE FUTURE OF ‘BMT’
THE FUTURE OF ‘BMT’
THE FUTURE OF ‘BMT’
Canadian Bone Marrow Transplant Group

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A Tribute to Hans Messner
Prof. James Till, Yoshi Niho, Gerry Price, Connie Eaves, Hans Messner and Bertie Aye
How is it going Hans?
  “Okay.” (i.e. not good).

What’s new?
  “Just met with Admin.” (i.e. oh-oh, really not good).

So, what did they say?
  “Number 1: They don’t get it.”
  “Number 2: I told them lots of times and they still don’t get it.”
  “Number 3: They never get it!”
Life–time Achievement Award of the American Society of Blood and Marrow Transplantation
February 2017 Orlando,
presented by Society President Chris Bredeson
Scholar, Physician, Friend and Family Man

CFU-GEMM (Grow Every Marrow for Messner)