



From the president

Dear members and colleagues,

I am sitting in my hotel room in Shanghai – the fog/smog is thick, the air is damp and very warm. It is a little after 5am and the streets are busy – traffic on the road, bikes and scooters by the dozen, people scurrying by going about their business. The city is a forest of tall apartment blocks stretching as far as the eye can see but throughout the city are parks. Not little recreation grounds but miniature Botanical gardens teeming with plants and trees of every variety. These provide the oasis in a hectic city and they are filled with people dancing, doing Tai Chi, singing, walking, energetically talking and pensively playing chess.

I am here to work with members of the Faculty of Nursing at the JaiTong University to develop a cancer nursing course and to embed cancer nursing into their Bachelor of Nursing programme, and to discuss research collaboration, all of which is very exciting. I have yet to see the clinical area but understand from the teachers that nurses here do not have safe handling guidelines nor access to PPE. This will be a challenge in teaching best practice but gives me food for thought sitting in my comfortable Sydney clinical environment. I hope that we can encourage cancer nurses from here to attend conferences and find other ways to discuss and share ideas and practice with nurses from all parts of the globe but this will take time I think.

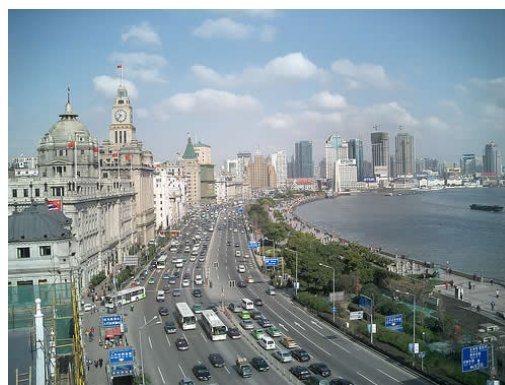
On another note – I attended the ISCN conference in Atlanta last March. I am pleased to report that there were nurses from 32 different countries there and there were a number of poster and oral presentations about haematology and haematology nursing. This is a vast improvement on the last conference where there were very few. The next one is to be held in Prague in 2012 – so come on people – get haematology on the front page!!

I hope that you are thinking about the HAA conference in Auckland in October and pencilling out your thoughts for your abstract,

With warm wishes

Moira

May 2010



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From the travel grant winners

Designing and Implementing a Haematology Specific Nursing Assessment Form

Elizabeth V. Hayes and Rachelle Frith

Haematology Unit, The Prince of Wales Hospital, Randwick, New South Wales



Essentials of Care (EOC), as discussed by NSW Health (2009), is a practice development framework aimed at improving patient care. The program initially focuses on nine 'essential' components of person-centred care that are deemed to affect the management of the patient throughout their hospital stay. These nine components are used as a base for comprehensive assessment involving clinical audits, observation of care and collection of patient stories.

After assessment the collated data is relayed back to staff for critical reflection and discussion. EOC is a process for identifying what is done well in a clinical area and what needs improvement. It also seeks to promote the participation of clinicians at ward/unit level to develop solutions to issues that need to be addressed. Action plans are then developed and implemented by ward/unit staff and then subsequently re-evaluated to assess their effectiveness. The process is based on a two year cycle. Assessment on our unit commenced in May 2008. Data was presented to staff at weekly meetings for four weeks and displayed on the unit for staff to access. One of the unit's priorities was to design and implement a haematology specific nursing assessment form as results showed varied compliance in completion of nursing care plans for haematology patients. During critical analysis, which commenced in October 2008, staff identified a number of shortfalls with the current generic hospital wide care plan and its appropriateness in the haematology setting. Frustration was also voiced regarding the numerous assessment forms required in addition to the generic care plan. The aim was therefore to produce a form that summarised all care requirements of the haematology patient. Furthermore the form was designed to be used as a tool to aid in clinical handover.

A working party of frontline nurses from the unit was set up. A survey was conducted to determine whether any haematology specific care plans were used within the South Eastern Illawarra Area Health Service, and no area that was contacted used a haematology specific care plan. The working party developed a form reflecting the nursing assessment of a haematology patient whilst fulfilling documentation requirements. It was presented to unit staff to critique. The contents and design of the form were agreed upon and in-services given for form clarification. A three month trial commenced in February 2009 with evaluation forms placed in the nurse's station and staff room.

In May 2009 the haematology specific nursing assessment form was audited and evaluation forms were reviewed. The audit illustrated increased completion of nursing assessments and documentation by staff. Utilising the form during handover provided a clear summary of the patient's stage in treatment enhancing communication between staff regarding patient care. Nursing staff also provided positive feedback regarding the streamlined and user friendly format of the new form. Additionally, new and agency staff found the assessment form to be beneficial when completing nursing assessments of haematology patients. Feedback led to minor changes being made which were re-audited in August 2009. Once again the completion rates were higher than the initial audit in May 2008. The form will be re-reviewed in May 2010.

NSW Department of Health. *Essentials of Care (EOC) Program: Putting patients at the centre*. Available URL: <http://www.health.nsw.gov.au/nursing/projects/eoc.asp> <Accessed 2009, September 3>.

Liz Hayes

Ed: Please note Liz was on holidays at the time of the last edition, hence this late submission.

Conference Roundup

European Society for Blood and Marrow Transplant – Vienna, March 2010

I recently attend the 36th Annual meeting of the European BMT Society held in Vienna, Austria, in March 2010. This meeting includes an innovative day, "The Patient and Family Day", now in its 4th year. This day provides great insight into the patient experience – their journey, issues, frustrations, joys and sorrows. It is very enlightening and very humbling to listen to patients and carers tell their story. This day also provides is patients and carers with information workshops and this year they were on topics such as GvHD, ALL, NHL and paediatric non-malignant disease.

There is a pre-meeting day organised especially for nurses by the EBMT Nurses Group. The focus this year was on the clinical disease, AML and the psychosocial issue of cancer and sexuality, including fertility and fatigue.

The scientific conference has many sessions of interest covering a great variety of topics but the most difficult part of being at this conference is trying to attend as many interesting sessions as possible and it is frustrating when many conflict on the schedule. Therefore I narrowed my focus to topics relevant to the work the BMT Network is currently focused on – ECP, GvHD, Late Effects, Donor



Conference Roundup (cont'd)

follow-up and survivorship. I spoke at the conference on the topic of the BMT Networks' website and the positive benefit it has to our nurses' education through the use of communication forums and webcasts.

The conference also has an extensive poster exhibition which covers all domains – medical, nursing, scientific and allied health. I found that attending these sessions provides an excellent opportunity to network with clinicians across the globe that will be a valuable resource and contact for the future. David Collins and I provided a poster for the nursing session about the BMT Networks' comprehensive nursing education programs and their benefit to nurses' professional development.

Jill Morrow

American Society for Blood and Marrow Transplantation/Tandem BMT Meetings, Orlando, 2010

I was fortunate to be able to attend the Tandem BMT Meetings that were held in Orlando in February of this year. The meetings consist of four BMT related meetings that run in tandem. They are:

- The Data Managers meeting for those who collect data and submit it to the Centre for International Blood and Marrow Transplant Research (CIBMTR).
- The BMT Pharmacists meeting
- The BMT Nurses meeting
- The Medical and Scientific meeting

The conference began with the data management meeting. Our allogeneic stem cell transplant patients are asked if they are willing to have their anonymous data submitted to the CIBMTR. The CIBMTR began life in 1972 as the International Bone Marrow Transplant Registry, just four years after the first successful HSCT. The CIBMTR has expanded to involve more than 500 transplant centres in 47 countries. This worldwide database now includes data on more than 300,000 autologous, related and unrelated donor transplant recipients. This is an excellent resource that can be used to answer questions about transplant but also allows us to benchmark ourselves against the rest of the world. The data managers meeting was a three day meeting which provided teaching and education around the forms that are completed for our patients. It also provided some excellent education sessions around some of the complications of transplant.

I also attended a large number of sessions in the BMT nurses meeting. These covered such topics as graft versus host disease (GVHD), psychological impacts of transplant, infectious complications and new advances in BMT. The calibre of the nursing programme was excellent. Some of the highlights of the nursing programme included:

- A refresher and update about pulmonary complications that may occur during and post transplant. Some of the terminology for these complications has changed in the past couple of years so this was an excellent session.
- An excellent session about the changes that are going to be happening with the labelling of antigens and alleles in tissue typing. Tissue typing is a vital test when looking for a donor for a patient. This test tells us whether a person is a match with our patient or not. There are new antigens and alleles being found by scientists all the time and the present numbering system is no longer able to cope with the new antigens and alleles being discovered. A new system has been devised and came into effect around the world in April of this year.
- A couple of excellent sessions about Graft versus Host Disease – these looked at the prevention, treatment, nursing care of patients and future therapies with this most common complication of allogeneic stem cell transplant.
- A very good session about multi drug resistant organisms that may infect our patients. This was a very good update and I felt some relief that as yet, some of these organisms haven't found their way into our hospitals in NZ. However, this was a timely reminder that we have to be vigilant in our hygiene practises and careful in our antibiotic use as these organisms will find their way into our hospitals eventually.
- A very good session about fatigue in the transplant population. This is an often overlooked side effect of the treatment we give our patients. This session provided an excellent overview of the problem, what the evidence based care and treatment is and also gave some very good references to be able to use in the future.
- There were a couple of round table sessions in the nursing programme where transplant nurses were able to discuss issues relevant to their current practise. The topics discussed were glucose control in HSCT, catheter associated blood stream infections, compassion fatigue in health care workers, sleep disturbances in HSCT patients and reducing medication errors. These were very worthwhile and practical sessions where it was an excellent opportunity to network with colleagues from around the world.
- Conferences like these provide good education about current and upcoming therapies associated with HSCT. The other important thing that these conferences do is provide reassurance that despite being a small transplant centre, we provide a good service for our patients. There was one presentation which gave the figure that 62% of transplant centres in the USA do fewer than 30 allogeneic stem cell transplants per year. We always hear about the big American centres that do over 400 transplants per year – it was reassuring to see that the bulk of transplant centres around the USA are very similar to us. It was also very reassuring to see that our outcome data is as good as anywhere in the world. This was a very useful conference to attend and has given me ideas, education and reassurance. All in all the conference was very worthwhile and I am very grateful for the opportunity to attend.

Catherine Wood

Conference Roundup (cont'd)

ASBMT 2010—Orlando, Florida - From another lucky attendee, a differing perspective

The American Society for Blood and Marrow Transplantation hold their annual meeting each March. It is also known as the Tandem meetings and consists of a number of meetings run for medical staff, nursing staff, pharmacists and scientists. I was lucky to be able to attend this year, and would like to thank Pfizer for their sponsorship.

This year the conference was held in Orlando, Florida, and occurred over a five-day period. Participants have the ability to move between the different clinical groups and go to sessions that they find of interest, however, like most conferences, sometimes making your mind up as to which sessions to attend is difficult.

Unlike a lot of conferences where the presentation of current data is the aim, this conference had a large education programme, and even some handheld question answering pads in some sessions, just to see if you were paying attention. The nurses three days were particularly well organised, and included pre printed material, containing, learning objectives for each session, a number of the presentations and references printed and bound. As well as presentations there were a number of roundtable discussions and breakout sessions that led to exchange of ideas.

The hot topic at the conference this year was the use of Plerixafor, to obtain better stem cell harvests, and when best to use it. Plerixafor shows an improvement in the number of stem cells available for harvesting, and at present is only used when patients have failed the standard GCSF / Chemo mobilisation protocols. However, there were a number of presentations on looking at earlier use of it, and looking for predictors so that it can be used without the donor having to go through further treatment. I think this is one to watch!

I was not the only Australian present, and it good to see a number of medics, nurses, and a pharmacist from BMT units not only present, but presenting at the conference.

Next year the conference is in Hawaii, so get ready to pack your boardshorts!!

David Collins

HAA 2010—Auckland, New Zealand

A reminder that this year's conference is to be held in Auckland from 17-20 October. We have a fabulous guest speaker, Shelley Dolan, Chief Nurse at the Royal Marsden Hospital in London. It's never too early to start thinking about what you'd like to present and to avoid that last minute rush! To help you prepare, see the following article for some guidelines on how to write and abstract. Don't forget when you are submitting your abstract to indicate if you would like your abstract to be considered for one of our travel grants.



How to write an abstract

An abstract serves two purposes. Firstly, it allows conference organisers to select papers for various sessions at their meeting. The abstract will help the programme committee decide which presentations should be given orally and those that should be presented as posters, and in which session they should appear. Secondly, at the meeting itself, it allows delegates to decide which presentations interest them.

An abstract is a concise summary of your work. Mostly, abstracts are limited to 250-300 words in length, so the author has to achieve as much impact as possible in a short space. As a general rule then, abstracts should convey findings in ordered, brief and uncomplicated sentences. Although abstracts may vary subtly, most therefore consist of the following standard layout and design:

Title, Introductory sentence, Methods, Results and Conclusion, though you do not have to write these labels.

- **Title** should be short and give an accurate indication of what you will talk about. The reader should be able to read the title and decide if the abstract is of interest to them
- **Introduction** provides a brief background and explains what you looked at and why you did it. In essence, use the introduction to detail why you did the work.
- **Methods** What did you do? Use one or two sentences to explain what you did, or how you tested your question.
- **Results** What did you find? The key part of the abstract. This section provides any data obtained in its analysed form. As a rule of thumb, the layout of the results section parallels that of the methods section.
- **Conclusion** What does it mean? The hard bit! An abstract should end with a concluding sentence/paragraph pointing out any potential significance of the findings to clinical practice or more specifically the field of interest.

TIPS!

- Make sure your abstract is clear
- **ALWAYS read and follow the conference guidelines!** This might sound obvious, but you'd be surprised how many abstracts get rejected because the submitter didn't follow the guidelines.

New online education resource

Online Myeloma Nurse Education Resource

The Myeloma Nurse Learning Programme© is an innovative online learning course specifically designed for haematology and oncology nurses with a particular interest in myeloma. It was developed by Myeloma UK in collaboration with European Group for Blood and Marrow Transplantation—Nurses Group

The new online Myeloma Nurse Learning Programme© is:

- Free** and available to all nurses with an interest in myeloma
- Flexible** to fit around nurses' busy schedules
- Interactive** and complete with 3D animations and online media
- Up-to-date** with relevant evidence and best practice to support nurses in their work

The programme is accessible to nurses at all levels; those with no previous learning in the field will gain extensive knowledge, and those with more clinical experience should benefit from the up-to-date content of the programme, and the opportunity to consolidate their understanding of myeloma. The programme has been reviewed by doctor and nurse specialists in myeloma and uses the most up to date research and best practice to inform it.

The online format of programme means that you can learn at your own pace and can fit it in around your current work commitments and lifestyle.

The Myeloma Nurse Learning Programme has been designed to inform and challenge nurses over a series of ten self-learning modules, which include; reflective activities, 3D animations and video clips from myeloma specialists and patients. At the end of each module there is a self assessment quiz, and the programme is assessed by four formal examination assessments which should be completed at the end of the programme.

Myeloma Foundation of Australia is currently seeking RCNA CNE points for this program – watch this space. For more information contact Tracy King, Myeloma Foundation on tracy.king@sswahs.nsw.gov.au

News from the regional groups



New Zealand (North Island)

The lower North Island has held two successful education evenings this year so far. We had our inaugural education evening in Palmerston North in March. Palmerston North is approximately two hours north of the capital city, Wellington. It has a large haematology catchment area with several regional hospitals feeding into its service. We had 23 attendees come along for an introduction to allogeneic stem

cell transplantation. The second education evening for 2010 was held in Wellington very recently. This was another successful evening where 21 attendees learnt about Burkitts Lymphoma. The education evenings have become sought after events. They would not be possible without our sponsors. Roche have very generously supported the first two events this year and the Leukaemia and Blood Foundation has very kindly supplied speaker gifts. The education sessions have been mapped out for the rest of the year as follows:

If anybody would like to attend any of these meetings or has further sug-

When	Where	Topic
June/July	Palmerston North	Multiple Myeloma
4 Aug	Wellington	Chronic Leukaemias
6 Oct	Palmerston North	VTE prevention and treatment
1 Dec	Wellington	Apheresis

gestions for education initiatives then please feel free to get in touch with me. I can be emailed at Catherine.Wood@ccdhb.org.nz

Catherine Wood

Victoria

The HSAZ – Victorian Nurses Group has a big year planned. High on our agenda is connecting with Haematology Nurses in metropolitan and rural Victoria and increasing our membership numbers. We have 4

educational evenings planned for 2010.

Our first meeting was a great success. The guest speaker was Kate Thompson who is the manager of ONTRAC – Adolescent & Young Adult services, a support service for young people up to the age of 25 who have a diagnosis of cancer. Kate presented an overview of ONTRAC – AYA, the resources they have available and future initiatives they have planned. For further information regarding the ONTRAC service please contact kate.thompson@petermac.org.

The next Victorian educational evening is on 20 July 6.30pm. Our guest speaker is A/Prof David Ritchie who is presenting about novel

therapies for the treatment of Lymphoma. For further information and to register your attendance please email yvonne.panek-hudson@petermac.org.

We are excited about our September and November meetings. September's meeting will focus on issues in non malignant haematology and November's meeting will focus on nurse led clinics and late effects in bone marrow transplantation. This meeting will coincide with the Royal Melbourne Hospital's annual BMT course.

I am thrilled to be the newly appointed Victorian chair person and look forward to meeting you at the HSAZ – Victorian Nurses Group educational evenings. If you have any questions or would like to go on our mailing list please don't hesitate to contact me.

Yvonne Panek-Hudson

South Australia/Northern Territory

SA is looking forward to its first educational event for 2010. We have joined forces with CNSA, Amgen and Roche to bring a full day of education to nurses working in the haematology and oncology setting.

We have an interesting morning line up which includes presentations on interpreting biochemistry results from a local haematologist; the assessment and management of cancer related fatigue from a senior RN who instituted a local patient program and a university lecturer who has recently completed their Masters thesis on the same topic; and mental health assessment in cancer patients from two nurse practitioners in mental health.

The afternoon will be equally interesting with an interactive workshop on clinical skills development in cardiovascular, gastrointestinal, respiratory and neurological patient assessment. The workshop will include cancer related scenarios and will be conducted by nurse practitioners and nurse practitioner candidates in related fields. Hopefully we can encourage and entice our attendees to explore extending their own practice by becoming nurse practitioners as well...

Allan Hayward



Western Australia

A new committee has been formed who have planned for 3 clinical meetings this year. The committee has good representation from both public and private sectors. The first meeting was held on April 13 with a theme of childhood ALL. The other 2 are planned for July & November. Each evening will be themed, with 2 speakers. Due to feedback about member needs, the committee has decided to wait until next year for a non-malignant themed evening presentation.

Cassi Lawrence

Spotlight on Clinical Trials

From Evidence to Practice

It is without doubt that new treatments reach the clinic through an often long and arduous process of research and development. The conduct of large scale randomised controlled trials (RCTs) typically culminate in the final seal of approval for new medicines. As evidence accumulates, changes to clinical practice are played out in the real world. Rituximab is one such example where approved indications have been extended to further groups of patients, based upon results generated from clinical trials. From Non-Hodgkin's Lymphoma (NHL) to Chronic Lymphocytic Leukemia (CLL), Rituximab is also approved in Rheumatoid Arthritis (RA). More than 400 clinical trials of Rituximab mostly in combination treatment are currently ongoing¹, indicating that this story is far from over.

For those involved in clinical research, however, it is often difficult to see the light at the end of the tunnel and the eventual impact of research translation to practice. Increasing levels of complexity in clinical trial conduct, combined within an intensively regulated environment have also driven spiralling costs of new drug development (estimated at \$802 million US²). Patients are also living longer with chronic disease, a more than appreciable positive outcome of the development and availability of more effective treatments. Evaluating the impact of new therapeutics upon survival can therefore take many years in order to follow the outcomes of primary interest.

This clinical research reality check therefore leads us to consider further the scope for evaluating other important areas of clinical practice, such as supportive care. Identifying ways in which interventions can be designed and evaluated, particularly in areas of symptom management (either disease or treatment-related) has grown substantially and the evidence is accumulating in many clinical settings including cancer and haematological malignancies³. There is a need for further research, including evidence gained through the conduct of clinical trials, to identify interventions and treatments which can improve the clinical management of symptoms as well as patients' quality of life.

1. <http://clinicaltrials.gov/> Accessed 15 May 2010
2. Adams C & Brantner VV (2006) Estimating the cost of new drug development: is it really \$802 million? *Health Affairs* 2, 420-428
3. Eaton LH & Tipton AM (2009) *Putting Evidence into Practice: Improving Oncology Patient Outcomes* Oncology Nursing Society, Pittsburgh, Pennsylvania

Kathleen Scott

Senior Lecturer and Course Co-ordinator of Master of Clinical Trials Practice, Sydney Nursing School, University of Sydney.

Future topics and questions for this column on clinical trials are welcome. Please send your ideas and questions to the editor.

2010 dates for your diary

International Conferences

10-13 Jun: European Haematology Association, Barcelona, SPAIN

26 Jun-1 Jul: International Congress of the International Society of Blood Transfusion, Berlin, GERMANY

10-14 Jul: World Federation of Haemophilia, Buenos Aires, ARGENTINA

1-4 Sep: World Apheresis Association Congress, Interlaken, SWITZERLAND

10-13 Oct: International Society of Haematology, Jerusalem, ISRAEL

4-7 Dec: American Society for Hematology, Orlando, Florida, USA

For those of you who really like to plan ahead:

2011

Mar: EBMT, Paris, FRANCE

National/Trans-Tasman Conferences/Meetings

29-31 Jul: CNSA 13th Winter Congress, Perth

17-20 Oct: HAA, Auckland

9-12 Nov: ALLG, Sydney

State/Regional Meetings

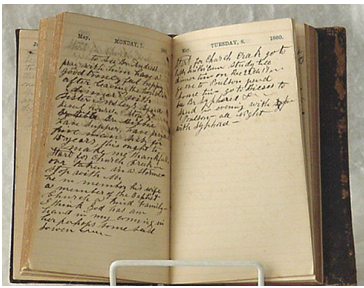
NSW:

17 Jun – Sydney

19 Aug – Wollongong

18 Nov – Sydney

Research News – a short trip around some recent journals



Changes in the use of hematopoietic stem cell transplantation: a model for diffusion of medical technology.

Gratwohl A, Schwendener A, Baldomero H, Gratwohl M, Apperley J, Niederwieser D, Frauendorfer K. [Haematologica](#). 2010 Apr;95(4):637-43.

Background: Innovations in hematology spread rapidly. Factors affecting the speed of introduction, international diffusion, and durability of use of innovations are, however, poorly understood. Design and Methods: We used data on 251,106 hematopoietic stem cell transplants from 591 teams in 36 European countries to analyze the increase and decrease in such transplants for breast cancer and chronic myeloid leukemia and the replacement of bone marrow by peripheral blood as the source of stem cells as processes of diffusion. Regression analyses were used to measure the quantitative impact of defined macro- and microeconomic factors, to look for significant associations (t-test), and to describe the coefficient of determination or explanatory content (R²). Results: Gross national income per capita, World Bank category, team density, team distribution, team size, team experience and, team innovator status were all significantly associated with some or all of the changes. The analyses revealed different patterns of associations and a wide range of explanatory content. Macro- and micro-economic factors were sufficient to explain the increase of allogeneic hematopoietic stem cell transplants in general (R² = 78.41%) and for chronic myeloid leukemia in particular (R² = 79.39%). They were insufficient to explain the changes in stem cell source (R² = 26.79% autologous hematopoietic stem cell transplants; R² = 9.67% allogeneic hematopoietic stem cell transplants) or the decreases in hematopoietic stem cell

transplants (R² = 10.22% breast cancer; R² = 33.17% chronic myeloid leukemia). Conclusions: The diffusion of hematopoietic stem cell transplants is more complex than previously thought. Availability of resources, evidence, external regulations and, expectations were identified as key determinants. These data might serve as a model for diffusion of medical technology in general.

Infection probability score, APACHE II and KARNOFOSKY scoring systems as predictors of infection onset in haematology-oncology patients.

Apostolopolou E, Raftopoulos V, Terzis K, Pissaki K, Pagoni M, Delibasi S. [J Clin Nurs](#). 2010 Apr 5. [Epub ahead of print]

Aim. To assess the predictive power of three systems: Infection Probability Score, APACHE II and KARNOFOSKY score to the onset of healthcare-associated infections in haematology-oncology patients. Background. The high incidence of healthcare-associated infections is a frequent problem in haematology-oncology patients that affects morbidity and mortality of these patients. Design. A retrospective surveillance survey. Method. The survey was conducted for seven months in the haematology unit of a general hospital in Greece to assess the predictive power of Infection Probability Score, APACHE II and KARNOFOSKY score to the onset of healthcare-associated infections. The sample consisted of 102 hospitalised patients. The diagnosis of healthcare-associated infections was based on the definitions proposed by CDC. Results. Among the participants, 53 (52%) were males and 49 (48%) were females with a mean age of 53.30 (SD 18.59) years old (range, 17-85 years). The incidence density of healthcare-associated infections (the number of new cases of healthcare-associated infections per 1000 patient-days) was 21.8 infections per 1000 patient-days. Among the 102 patients, healthcare-associated infections occurred in 32 (31.4%) patients who had a total of 48 healthcare-associated infections (47.5%). Among the 38 patients with neutropenia, 26 (68.4%) had more than one healthcare-associated infection. Of the 48 detected healthcare-associated infections, the most frequent type was blood-stream infection (n = 17, 35.4%), followed by Clos-

tridium difficile infection (n = 11, 22.9%) and respiratory tract infection (n = 8, 3.4%). The best cut-off value of Infection Probability Score (IPS) for the prediction of a healthcare-associated infection was 10 with sensitivity of 59.4% and specificity of 74.3%. Conclusions. Between the three different prognostic scoring systems, IPS had the best sensitivity in predicting healthcare-associated infections. Relevance to clinical practice. IPS is an effective tool and should be used from nurses for the early detection of haematology-oncology patients who are susceptible to the onset of a healthcare-associated infection.

Mobilization of hematopoietic stem cells for use in autologous transplantation.

Devine H, Tierney DK, Schmit-Pokorny K, McDermott K. [Clin J Oncol Nurs](#). 2010 Apr 1;14(2):212-22

Autologous hematopoietic stem cell transplantation (HSCT) is a potentially curative therapeutic approach for various malignant hematologic and lymphoid diseases. Hematopoietic stem cells (HSCs) may be collected from the blood or the bone marrow. HSCs are capable of self-renewal and give rise to progenitor cells, multipotent cells that differentiate and proliferate into the mature cells of the blood and immune system. HSCs and progenitor cells are released from the bone marrow into the peripheral blood through a process called mobilization. HSCs then are collected from the blood in a process called apheresis and cryopreserved for administration following the high-dose preparative regimen. This article reviews stem cell biology, current mobilization strategies, use of novel mobilization agents, and nursing care of patients during the mobilization phase of autologous HSCT. Understanding the biology and process of HSC mobilization is critical for transplantation nurses to deliver and coordinate care during this complex phase of autologous HSCT.

Understanding blood groups and transfusion in nursing practice

Watson D, Hearnshaw K. [Nurs Stand](#). 2010 Mar 31-Apr 6;24(30):41-8;

A donation of whole blood can be processed into red cells, platelets, fresh frozen plasma and cryoprecipitate. This processing permits

Research News – continued

individual blood components to be given to several different patients and transfusion of appropriate blood components according to the specific needs of the individual. Although blood transfusion may be perceived as a common practice, it is not without risk and all staff should be aware of their roles and responsibilities within this process. To help reduce the risks associated with transfusion, staff must be aware of local policies and procedures, receive the relevant transfusion training, and be assessed as competent.



Disseminated *Fusarium* infection originating from paronychia in a neutropenic patient: a case report and review of the literature.

Bourgeois GP, Cafardi JA, Sellheyer K, Andea AA. [Cutis](#). 2010 Apr;85(4):176-7.

Fusarium is a saprophytic organism that is widely found distributed in soil, subterranean and aerial plants, plant debris, and other organic substrates. It can cause local tissue infections in immunocompetent patients, such as onychomycosis, bone and joint infections, or sinusitis. The incidence of disseminated disease has notably increased since the initial cases of disseminated *Fusarium* were described, particularly affecting immunocompromised patients with hematologic malignancies. We report a 39-year-old man hospitalized with newly diagnosed acute myelocytic leukemia who developed disseminated *Fusarium* infection originating from toenail paronychia in the setting of neutropenia. Pathologic diagnosis of *Fusarium* is difficult because the septate hyphae of *Fusarium* are difficult to distinguish from *Aspergillus*, which has a more favorable outcome. Cultures of potential sources of infection as well as

tissue cultures are essential in identifying the organism and initiating early aggressive therapy.

Myeloproliferative Disorders and the Hyperviscosity Syndrome.

Adams BD, Baker R, Lopez JA, Spencer S. [Hematol Oncol Clin North Am](#). 2010 Jun;24(3):585-602.

Myeloproliferative disorders and the serum hyperviscosity syndrome can rapidly manifest with emergent presentations. Hyperviscosity occurs from pathologic elevations of either the cellular or acellular (protein) fractions of the circulating blood. Classic hyperviscosity syndrome presents with the triad of bleeding diathesis, visual disturbances, and focal neurologic signs. Emergency medicine providers should be aware of these conditions and be prepared to rapidly initiate supportive and early definitive management, including plasma exchange and apheresis. Early consultation with a hematologist is essential to managing these complex patients.

Oral Symptom Intensity, Health-Related Quality of Life, and Correlative Salivary Cytokines in Adult Survivors of Hematopoietic Stem Cell Transplantation with Oral Chronic Graft-Versus-Host Disease.

Fall-Dickson JM, Mitchell SA, Marden S, Ramsay ES, Guadagnini JP, Wu T, St John L, Pavletic SZ; NIH Chronic GVHD Study Group. [Biol Blood Marrow Transplant](#). 2010 Feb 4. [Epub ahead of print]

Oral chronic graft-versus-host disease (cGVHD) is a frequent, clinically significant sequela of allogeneic hematopoietic stem cell transplant (HSCT). This study was designed to elucidate relationships among clinical characteristics of oral cGVHD and related oral pain and oral dryness, salivary proinflammatory cytokine IL6 and IL1alpha concentrations, and health-related quality of life (HRQL). An understanding of the characteristics and correlates of oral cGVHD manifestations and related symptoms such as dryness is fundamental to the development of therapeutic interventions. Methods: Oral cGVHD severity was assessed with the Oral Mucositis Rating Scale (OMRS). Oral pain and perceived oral dryness intensity were

self-reported via a visual analogue scale and a numeric rating scale respectively. HRQL was assessed with the Functional Assessment of Cancer Therapy-General (FACT-G). Salivary IL1alpha and IL6 concentrations were measured by enzyme-linked immunosorbent assay (R & D Systems, Minneapolis, MN). Results: All 42 adult subjects (male 59%) had clinician-assessed oral cGVHD by OMRS scale (mean = 18.38 +/- 12.99; range = 2 to 46). Oral dryness (43%) (mean = 2.56 +/- 3.45; range = 0 to 10) was more prevalent than oral pain (8%) (mean = 0.13 +/- 0.47). Salivary IL6 was associated with oral cGVHD severity ($r = .49$; $p < .01$), oral ulceration ($r = .38$; $p = .04$), and erythema ($r = .63$; $p < .01$). FACT-G total, and physical and emotional well-being subscale scores were meaningfully lower than US population normative values. Participants with more severe oral cGVHD manifestations had significantly inferior social/family well-being ($r = -.49$; $p < .01$). Oral dryness was associated with higher salivary IL1alpha ($r = .41$; $p = .04$), and controlling for cGVHD severity, with lower health-related quality of life ($r = -.41$; $p = .03$). Subjects with moderate to severe oral dryness tended to report the poorest overall HRQL. This study provides preliminary evidence of the relationship between oral dryness and HRQL, the contribution of oral cGVHD to inferior HRQL, and the association between IL6 and oral cGVHD overall severity, ulceration and erythema. The high prevalence of oral dryness and its relationship to HRQL in a sample of patients with oral cGVHD underscores the importance of improving our evaluation and management of this symptom in long-term survivors of allogeneic HSCT. The positive association seen between IL6 and oral sGVHD overall severity, and erythema, as well as the positive trend seen with oral ulceration, warrant further exploration of this cytokine as a potential biomarker of active oral cGVHD.

Clinical Practice Corner

This is the space where you can share your practice, your bright ideas and innovative ways; everybody is at it, so why not share it?



Graduate Certificate in Nursing Science (Apheresis Nursing)

Whether collecting platelets from donors at the Australian Red Cross Blood Service or collecting stem cells for a future haematopoietic stem cell transplant from patients in the hospital it is clear that Apheresis Nursing is a dynamic and highly specialised field. Training to operate the specialised equipment used in these procedures often occurs in house. Nurses working in these areas have an opportunity to further enhance their skills and knowledge by completing a Graduate Certificate in Nursing Science (Apheresis Nursing). The University of Adelaide course is designed to build on the theoretical base and clinical skills of the registered nurse working in the area of donor and/or therapeutic apheresis. Nurses are given an opportunity to gain a deeper understanding of the assessment and management of this group of people and the technology used to carry out specialised procedures.

The course comprises two modules, each completed over a semester each. Modules can be commenced either at the beginning or mid way through the year. It is offered in a flexible learning mode, allowing Nurses across the country to access the course and participate. Students receive a study guide and cd-rom of readings and utilise online discussion forums and “virtual classrooms” for presentations and interactions with other students.

Topics covered include the nursing and medical science that underpins apheresis technology, the care and management of the patient or donor in the adult and paediatric setting as well as the treatment of common complications. The various applications of apheresis and technical procedures involving columns, filtration and photopheresis are also examined. Product quality, procedure and process validation as well as the legal and professional issues are also explored.

Further information on the Graduate Certificate in Nursing Science (Apheresis Nursing) can be found at:

http://health.adelaide.edu.au/nursing/students/programs/cert_apheresis.pdf Or by contacting Program Coordinator Elizabeth Zwart +61 8 8222 2991 or elizabeth.zwart@adelaide.edu.au

There is also good news for nurses working in NSW. The BMT Network NSW has been offering sponsorships for the past seven years, with 12 nurses to date having passed the course. Expression of interest are called for each February, further details can be obtained from David Collins on david@bmtnsw.com.au.

A recipient of one of the first BMT Network NSW Apheresis scholarships is Beth Newman who has recently been endorsed as a Nurse Practitioner. She writes about her role below.

My role as a Bone Marrow Transplant & Apheresis Nurse Practitioner

My scope of practice at Concord Repatriation General Hospital is a challenging, consultative and collaborative entity. It encompasses the holistic care of the patient undergoing autologous stem cell mobilisation, collection and transplant, patients undergoing apheresis procedures such as white cell or platelet depletions, red blood cell exchanges, and therapeutic plasma exchanges, tissue typing of patients and families and preliminary workup of those patients referred on for allogeneic transplant.

Multidisciplinary collaboration between specialists, laboratory scientists, nursing, blood bank, apheresis, allied health, pharmacy and others is required to maintain the holistic, evidence based care of the patient undergoing autologous transplant or apheresis.

Care of our patients is a team effort that is pulled together by unique clinical patient pathways which I develop in conjunction with the patient and distribute to all those involved.

Patient assessment is vital so that appropriate referrals to psychology, dieticians, social worker, occupational therapists are made, diagnostics such as bloods, X-Rays, CT's, GHPS, blood product considerations are also a part of role and are ordered safely and effectively. Venous access is assessed and appropriate venous access device choices are made. I function under standing orders in apheresis that enable swift treatment of the patient in call back or emergency situations.

Clinical Practice Corner cont'd

Education of patients, family, friends and colleagues is of paramount importance and a continual part of my role. Research projects include a quantitative "Non-Blinded Crossover Pilot Study comparing plasma exchange with column fractionation in patients diagnosed with myasthenia gravis" which is nearing completion and a qualitative phenomenological study of patients undergoing haematology treatments and their quality of life.

Another part of my role has been to implement and maintain a quality system designed to guide and monitor the safe, reliable and consistent collection of Haematopoietic Stem Cell for transplant. This has enabled CRGH to achieve licensure with the Therapeutic Goods Administration for the manufacture of autologous and allogeneic stem cells.

Currently the apheresis unit is staffed with myself and two absolutely fabulous clinical nurse specialists (Chris and Daisy). We currently perform just over four hundred apheresis procedures, with two cell separators, annually. We submit our data to the World Apheresis Association and International Society for Apheresis which enables global comparisons of treatment methods and equipment, international benchmarking, networking opportunities and publication.

In 2007 I implemented an outpatient bone marrow transplant program which has successfully decreased the length of stay for patients undergoing autologous transplant.

I have the great pleasure of working in an environment that has fully supported my goal of becoming a nurse practitioner. Our Haematology team here at Concord General Repatriation Hospital is full of caring, skilled, and understanding people that endeavour to give of their best daily for the continuing care of both our patients and each other. They are magnificent!

And lastly.....

I am also a newly appointed NATA assessor for NPACC standards and guidelines for apheresis – I might see you soon, at an apheresis unit near YOU!

Elizabeth Newman

Chronic Lymphocytic Leukaemia (CLL)—an update on upfront treatment options

CLL is a monoclonal B-cell malignancy. It is one of the most common forms of adult leukaemia and affects mainly older people. Diagnosis frequently occurs early in the disease trajectory and treatment may not be required – the so called 'watch and wait' approach. Treatment is required once the disease becomes symptomatic or for those patients who are diagnosed with advanced disease. Recent advances in the ability to identify prognostic indicators, such as cytogenetics, have enabled the prediction of response to treatment and even the duration of the response.

Having evolved from monotherapy with agents such as Chlorambucil, the options for treatment of CLL now include a number of combination chemotherapy regimens. Chlorambucil was the mainstay of treatment for many years and still has a place in the very elderly or those with a poor performance status.

Single agent regimens of the purine analogues Fludarabine and Cladribine have been shown to be effective treatments as has Alemtuzumab, an anti-CD52 monoclonal antibody. Alemtuzumab has been shown to be effective in the treatment of patients with particular cytogenetic features such as del(17p), del(11q) or p53 mutations. However, the widely used chemo-immunotherapy regimen FCR (fludarabine, cyclophosphamide and rituximab) has now become the most effective treatment to date. A version of FCR with oral fludarabine and cyclophosphamide is currently the subject of an Australian dose intensification trial in elderly untreated patients. The role of allogeneic transplantation in the treatment of CLL remains unclear, although it is recommended for patients with high risk cytogenetics who have failed treatment with purine analogues. Autologous transplantation is not considered to have any role in the treatment of CLL.

Emergent therapies

Bendamustine, an IV Alkylating agent has been shown to be efficacious as both up front treatment and is widely used internationally both as a single agent and in combination regimens, however it is not yet registered in Australia. It is the subject of ongoing trials in combination with either Rituximab or Lenolinomide.

Lenolinomide, a immunomodulatory agent that is mainly used in multiple myeloma, has shown activity in CLL, however even small doses have been associated with significant tumour lysis and tumour flare. It is currently the subject of an Australasian Leukaemia & Lymphoma Group randomised trial comparing FCR with or without lenolinomide.

Ofatumumab, an anti CD20 monoclonal antibody is the subject of ongoing international trials and preliminary results have been described as impressive.

Treatment for CLL has changed quite dramatically over the past few years with undoubted improvements in patient survival and quality of life and with all the new agents in the pipeline, it's a case of watch this space to see what happens next!

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Angela Booth

Transfusion Nursing update



By the time this newsletter comes out Transfusion Update for 2010 will be over for another year; however presentations from the update are available from www.transfusion.com.au.

Transfusion Update is a three day seminar series run by the Australian Red Cross Blood Service for health professionals. This year includes presentations by a number of transfusion nurses with IVIG, platelet dose, consent, patient blood management and transfusion practice some of the topics on the program.

Time to donate?

Winter can be a difficult time of the year as cold and flu season affects blood donors' ability to donate and can put a strain on blood supplies. If you are interested in information about donating blood please visit www.donateblood.com.au or if you want to make an appointment to donate please call 1314 95.

National Blood and Blood Product Standard for Healthcare Organisations

The Australian Commission on Safety and Quality in Healthcare (ACSQH) was requested by Australia's Health Ministers to develop a framework for safety and quality accreditation of health organisations. A key component of this framework is the development of national health care standards for Australia. ACSQH is in the process of developing a healthcare standard for Blood and Blood products. A number of transfusion nurses were invited to provide input into a draft standard that will be released for external comment in the second half of 2010. More information about the commission can be found at www.safetyandquality.gov.au/

Articles of interest.

Failure to properly check patient identity and the blood component at the bedside has led to a number of serious adverse events and patient deaths. The article on medication errors by Westbrook et al (2010) adds to our knowledge of the complexity of correctly administering the right product to the right patient at the right time and the role of interruptions in medication errors. The most frequent procedural failure was failing to check patient identity prior to administration of medication. As well as being great Australian research, it prompts you to reflect on your practice and ward practices.

Association of Interruptions With an Increased Risk and Severity of Medication Administration Errors, Johanna I. Westbrook, PhD; Amanda Woods, RN, MEd; Marilyn I. Rob, PhD; William T. M. Dunsmuir, PhD; Richard O. Day, MD, Archives of Internal Medicine, VOL 170 (NO. 8), APR 26, 2010, p 683-690

Blood Transfusion Web sites and itransfuse fact sheets

The Australian Red cross Blood Service is producing very useful one page fact sheets on transfusion topics such as Intravenous immunoglobulin, Irradiation of blood products and bone marrow. These sheets contain simple information that could be useful for new haematology or student nurses. A new fact sheet comes out every two weeks. The fact sheets can be found at: www.transfusion.com.au

While you are searching the web you may also want to look at a few other transfusion related web sites. This newsletter we will focus on the sites aimed at children. be found at www.bloodbuddies.com.au/

Other great websites for children (and adults) include the Nobel Prize web site which has some great games that are a fun way to refresh some anatomy and physiology. My particular favourites the blood groups, cell cycle and immune system games www.nobelprize.org/educational_games/

For more blood games visit Billy blood drop at www.blood.co.uk/funzone/games. This site has number of blood related games for children and those that still think they are kids!

Bev Qusted

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