

FAMILY PRACTICE ONCOLOGY NETWORK

Newsletter



BC Cancer Agency

CARE & RESEARCH

An agency of the Provincial Health Services Authority

www.bccancer.bc.ca/hpi/cme/fpon

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*Greg Guilcher,
Senior Fellow,
Pediatric Oncology/Hematology/
BMT
BC Childrens
Hospital*

Complications and Toxicities from Chemotherapeutic Agents Commonly Given in the Community for Childhood Cancer

By: Greg Guilcher MD, FRCPC, FAAP

Chemotherapy is one of the treatment modalities commonly used to treat childhood cancer. While such medicines have many different mechanisms of action, most are effective because they kill rapidly dividing cells (e.g. cancer cells) (1). Since many chemotherapy drugs affect all rapidly dividing cells, many normal tissues are affected as well. Such tissues include the hair, the lining of the intestine and the bone marrow. Chemotherapy dosing and timing is often limited by toxicity to normal tissues. The goal of therapy is to balance maximal killing of tumor cells while minimizing harm to the rest of the child's body. Several chemotherapy drugs commonly administered in the community will be reviewed here, with a focus on side

effects and toxicities.

Vincristine is a chemotherapy drug used in the treatment of acute lymphoblastic leukemia as well as many solid tumors. It is given intravenously, but it is highly toxic to subcutaneous tissues (i.e. vesicant). Vincristine is metabolized in the liver, and patients with elevated direct bilirubin levels may require dose modifications (1). Vincristine may also cause myenteric neuropathy, resulting in constipation. Regular bowel movements must be maintained while receiving this medication and many children require laxatives. Many children experience "foot drop" and diminished deep tendon reflexes. Physiotherapists are

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FAMILY PRACTICE ONCOLOGY NETWORK CHAIRS

NETWORK COUNCIL

Dr. Philip White
Kelowna
250.765.3139
drwhitemd@shaw.ca

CONTINUING MEDICAL EDUCATION

Dr. Shirley Howdle
Vancouver
604.877.6000
showdle@bccancer.bc.ca

PRECEPTORSHIP PROGRAM

Dr. Bob Newman
Dawson Creek
250.782.5271
rnewman@pris.ca

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Family Practice Oncology Network Continuing Medical Education Day

Saturday, December 1, 2007

"INNOVATION AND TECHNOLOGY – BENCH TO BEDSIDE"

Part of the BC Cancer Agency Annual Cancer Conference
November 29 to December 1, 2007

Westin Bayshore, Vancouver, BC

For more information go to: www.bccancer.bc.ca/HPI/ACC2007

Preliminary Schedule

- o Networking to Improve Cancer Care for Patients
- o Electronic Medical Records
- o Palliative Care, Chemotherapy, Radiotherapy
- o Core and Sterotactic Biopsies
- o Brachytherapy
- o Sentinel LN Biopsies

Research at the BC Cancer Agency:

The Changing View On Early Detection And Prevention Of Lung Cancer



Dr. Stephen Lam is Chair of the BC Cancer Agency Lung Tumour Group, Head of the Lung Cancer Prevention Program at the BC Cancer Research Centre, Professor of Medicine at UBC, and in-

ternationally recognized as a leading investigator into the early detection and chemo-prevention of lung cancer.

A key benefit of the Family Practice Oncology Network is the opportunity to share news of important research developments at the BC Cancer Research Centre and enable family practitioners to use this knowledge to their patients' advantage. The goal of researchers into lung cancer at the Research Centre is to establish a comprehensive system to control and prevent this cancer through risk assessment, early detection and treatment. Since the 1990s these researchers have been involved in several studies to identify compounds that will prevent cancer in individuals identified as having pre-cancerous changes in their lungs.

Dr. Stephen Lam leads these research initiatives many of which are in collaboration with Vancouver General Hospital and St. Paul's Hospital, various North American universities and the National Cancer Institute in the United States. A recipient of the 1999 Friesen-Rygiel Prize by the Canadian Medical Discoveries Funds Inc. for innovative discovery as a co-inventor of the LIFE-Lung device now used worldwide for detection of pre-invasive lung cancer, and the 2002 Gustav Killian Medal by the World Association for Bronchology for pioneering work in early detection of lung cancer, he shares his insight on current developments here:

What chemo-preventive compounds are currently being investigated?

We are involved in the clinical translation of many studies to identify natural or compounds or prescription drugs to reverse pre-cancerous changes in the lungs or stop their development. Initially, we studied Vitamin A which was deemed ineffective. We then examined prescription such as drugs Sialor that was used to treat patients experiencing dry mouth following radiation treatment to the head and neck area; and inhaled budesonide which is an anti-inflammatory steroid used to treat asthma and chronic obstructive pulmonary disease. These compounds have some activity, but were not strong enough to proceed to a Phase III clinical trial.

Studies for which we are now completing enrollment focus on a combination of six herbs, called ACAPHA, used to treat pre-cancerous lesions in the esophagus in China for several decades. Studies in China have shown that ACAPHA intake reduces the risk of esophageal cancer by 40 – 50 percent and a preliminary open study at the BC Cancer Agency showed promising results in preventing the progression and development of pre-cancerous lesions in the lungs.

We are also exploring whether a standardized preparation of decaffeinated green tea called Polyphenon E may have some effect on healing pre-cancerous lesions in former heavy smokers at risk of developing lung cancer. Other projects include a compound called myoinositol, derived from grain such as rice and commonly used in baby food, and an anti-inflammatory drug called Sulindac.

How has risk assessment become more effective?

We look at individuals' risk for developing lung cancer differently now. Previously, we gauged risk for smokers by pack years (number of packs smoked per day x number of years smoked). We now know that the duration of smoking is a stronger risk factor

than the number of cigarettes smoked a day. The age of smoking cessation is also an important determinant of risk.

We are also refining a risk algorithm based on biometric and demographic factors. In this risk assessment model, in addition to including an individual's age, smoking history, and occupational exposure, we have also included family history of lung cancer, evidence of chronic obstructive pulmonary disease, body mass index and education level. Scores for each category are entered and a specific risk calculated. Preliminary results suggest that this risk model may be more effective than the Gail model for breast cancer risk assessment.

How can family practitioners enhance these efforts?

Family doctors can play a significant role in prevention of lung cancer first in advising any patients who are smokers to stop. They can also run through the risk algorithm or check list and determine whether a patient should be screened or encouraged to take part in a study. The algorithm will be available on the Research Centre's website this fall – www.bccrc.ca – and also through the Network's Cancer Information at Point of Care (CI-POC) system as the lung cancer module becomes available. We are also happy to answer questions and can be reached at 604-675-8088 or toll free at 1-888-675-8001 local 8088.

Where will the focus be in the future?

Prevention of lung cancer through risk assessment and early detection will continue to be our focus. We are establishing the infrastructure now thanks to a generous \$2 million contribution from the MDS - Dr. Don Rix Endowment Fund to the BC Cancer Foundation. If we can lower the incidence and mortality from lung cancer by early detection and chemo-prevention, the overall cancer survival figures in BC and beyond will improve dramatically.

Preceptor Profile: Dr. Mike McGuire



No need for fish stories here! Dr. Michael McGuire, a recent graduate of the Preceptor Program and successful angler, shares his rationale and thoughts on the Network's Preceptor Program established

to increase oncology expertise in communities throughout BC.

Dr. Michael McGuire knows a thing or two about cancer and patients' needs. Not only did he recently complete the BC Cancer Agency's Preceptor Program, but he is also a cancer survivor himself. Diagnosed with multiple myeloma three years ago, Dr. McGuire underwent a bone marrow transplant and chemotherapy that were ultimately unsuccessful and then took part in an experimental drug trial that resulted in a complete remission.

"I decided to take the Preceptor Program for different reasons than most. I knew that I would not be able to return to general practice in the community, but wanted to get back into the medical field where I could contribute the most. Through my illness, I developed a great deal of insight into what people with cancer go through – they have among the greatest needs of anyone we encounter in medical practice. Thanks to the knowledge gained through the Program, I recently started working again part-time as a locum for the General Practitioner in Oncology (GPO) - Radiation Oncology at BC Cancer Agency in Victoria and may take others as a GPO - Medical Oncology in another community. I want my experience and knowledge to do some good."

"The Preceptor Program provides a clearer understanding of oncology which we often do not have the chance to establish as busy general practitioners. In fact, we tend to lack confidence in treating cancer patients and hand them off quickly to the oncologists when we run into problems. This is not always necessary for many of

the more minor problems encountered by cancer patients. The Preceptor Program offers a highly relevant body of knowledge that can be absorbed quickly and flexibly by general practitioners."

The Preceptor Program is designed in a modular format to provide maximum flexibility for family doctors. Eight weeks in total, the Program includes a two-week introductory module, offered twice yearly at the BC Cancer Agency (February and September) in Vancouver, followed by a wide selection of remaining modules that can be tailored to specific physicians' and communities' needs and completed over six months at any of the BC Cancer Agency's four cancer centres located in Kelowna, Surrey, Vancouver and Victoria.

Program graduates are eligible to receive Royal College of Canada credits. Accommodation and travel expenses are covered and a stipend is provided through the University of British Columbia Enhanced Skills Program.

"The idea behind this Program – to increase the number GPs in communities who can serve as oncology resources – is fabulous. The staff at the BC Cancer Agency were very encouraging of my participation and resulting return to work. This is definitely a worthwhile program especially for GPs from communities where the oncology resources are limited and even for those in larger centres. The instructors are great and the knowledge base gained is very useful."

Dr. Michael McGuire is originally from Duncan. He completed his undergraduate degree at Simon Fraser University, medical school at UBC and his internship at Dalhousie University. When not serving as an oncology resource, he resides on a farm with horses near Ladysmith and gets out fishing "as often as I can."

Contact Dr. Michael McGuire at: mmcguire2@bccancer.bc.ca or mike.angela@telus.net

To learn more about the Preceptor Program contact Gail Compton at: gcompton@bccancer.bc.ca



MESSAGE FROM THE CHAIR

*Dr. Philip White,
Chair of FPON and
Family Physician in Kelowna*

The Family Practice Oncology Network (FPON) continues to move forward towards its goal of becoming a true interactive resource for all of the family doctors in British Columbia. As well, we are forging alliances with similar fledgling networks in other provinces in particular Alberta and Manitoba. Meetings and teleconferences have already occurred and more are to follow. We will report on those further as the concept of a strong Family Practice role in enhanced cancer care in the future continues to evolve and we have had more interaction with our colleagues in other provinces.

Over the past few months we have had several Executive and Council Meetings as well as meetings with Dr. Simon Sutcliffe, the BC Cancer Agency CEO, where we have been discussing the "way forward" for FPON. As a result of these discussions, we have realized that we need a Medical Director "on the ground" at the Agency who will be able to represent and champion us at the executive level as well as provide needed guidance and liaison there. Someone who is familiar with the workings of the Agency and who is able to give us more of a presence with Oncologists and others on an as needed basis to get things done in a timely manner. Dr. Sutcliffe is very supportive of this and we are well on the way to having an individual able to play this role available. More on this in our next Newsletter. Our thanks to Dr. Bob Newman for producing a draft job description and the rest of the Executive Committee for reviewing.

Our cancer as a chronic disease concept with Cancer Information at Point of Care (CI-POC) continues to move forward and we will be showcasing this at the Annual Cancer Conference in November.

Finally, I would encourage all of you to come to our Family Practice Education Day at the Cancer Conference on Saturday, December 1st. Not only will we be showcasing CI-POC but there will be excellent presentations (and even a lunch!) all day. I feel very encouraged as we move forward and would like to take this opportunity to thank all of the Council and Committee Members who give up so much of their time to ensure that we become the resource for all of us that we should be.

You, Your Hospital Pharmacy and BC Cancer Agency - A Partnership



The delivery of cancer chemotherapy requires a partnership between you (the physician), the hospital pharmacy and the BC Cancer Agency. The Pharmacy CON (Communities Oncology Network)

Educators provide a liaison between the BC Cancer Agency and the hospital pharmacy. There is one Educator at each of the four Cancer Centres who provides information, education and support for the CON hospital pharmacies.

What Your Local Hospital Pharmacy Does For You And Your Cancer Patients:

As they do for any drug order, the pharmacist in your local hospital performs a review of chemotherapy orders for complete and accurate drug, dose, route, administration, timing and duration, and potential drug interactions or allergies. Since drugs used to treat cancer are generally given within a narrow therapeutic window more stringent medication safety practices are required, as outlined in *BC Cancer Agency Policy III-10 – Chemotherapy Process*. For these drugs, the pharmacist also checks the patient's laboratory values against the chemotherapy order and the patient's specific treatment protocol. These drugs require "extraordinary" handling – the pharmacy staff safely and accurately prepares and dispenses parenteral chemotherapy, taking appropriate measures for patients with special needs such as latex allergies. Pharmacists will also provide medication counseling and patient information handouts, including information on alternative therapies a patient may be considering.

Your hospital pharmacist can advise and assist you with the application process for drugs which require special ordering procedures and/or approvals, such as Health Canada's Special Access Program (SAP) and BC Cancer Agency's Compassionate Access Program (CAP, previously "Undesignated Request").

Your local hospital pharmacist may participate in "telepharmacy" - providing pharmacy services to another community

that is temporarily without a pharmacist, so that patients don't have to travel far from home to continue their oncology treatments.

What Your Local Pharmacy Needs From You:

It is important to provide medication orders in a timely manner before treatment and preferably on a protocol-specific pre-printed order available from the BC Cancer Agency website. Whenever possible, ensure that laboratory values are easily available to Pharmacy (e.g. electronically), so that they can be checked against the protocol requirements. Providing orders early not only allows the triple-checks recommended, but also ensures that drug supply is available by the treatment day and that any necessary documentation is completed. In order to process orders and to claim reimbursement of drug costs from BC Cancer Agency, the pharmacist will need to know the protocol code, BC Cancer Agency number, PHN, and relevant patient information (e.g. allergies, weight, height, age). Communication of any changes to treatment plan, patient status, etc. are essential for smooth drug delivery, as is your presence in the hospital when those drugs with a high risk of hypersensitivity reactions are being administered.

What BC Cancer Agency Pharmacy Does For You And Your Cancer Patients:

Each BC Cancer Agency Tumour Group includes in its membership a pharmacist who assists in the development and

maintenance of evidence-based treatment protocols and provincial pre-printed orders. BC Cancer Agency pharmacists provide articles on current therapy through the Systemic Therapy Update newsletter and BC Cancer Agency's Drug Information Pharmacists research and provide specialized drug information on request. The BC Cancer Agency Pharmacy Analyst maintains a database of oncology drug usage throughout BC, from which data can be retrieved for research you may wish to do on a subset of your patients.

What BC Cancer Agency Pharmacy Needs From You:

In order to populate the database of province-wide oncology drug use, and to ensure that your local hospital receives correct reimbursement for oncology drug usage, it is necessary for you to provide a protocol code on all chemotherapy orders, including those for oral or hormonal drugs. Submitting Class II and CAP approval information (including pathology where requested) and SAP documents well in advance of intended treatment date will allow smooth and timely approvals, and ensure that your patients can be treated on schedule. Early registration of new cancer patients with the BC Cancer Drug Registry will ensure that they are assigned a BC Cancer Agency number, and use of a patient's BC Cancer Agency number on all documents related to your patients will ensure correct patient identification in all correspondence and transactions related to that patient.

PRECEPTORSHIP TRAINING FOR RURAL FAMILY PHYSICIANS

Vancouver

Sept 24 - Oct 5, 2007 & Feb 25 - Mar 7, 2008

The BC Cancer Agency has developed this program, with the support of the UBC – Enhanced Skills Program, to help family physicians strengthen their oncology skills and the potential to act as a resource for their family practice colleagues. This eight week course starts with a two week module which takes place at the BC Cancer Agency in Vancouver. Participants who complete the program are eligible for MainPro C CME credits. Participating physicians may also apply to the UBC Enhanced Skills Program for support including a salary and coverage for travel and accommodation expenses. For more information contact Gail Compton, Family Practice Oncology Network, 604.707.6367.

Human Papilloma Virus – An Update For BC

Vaccine Status

HPV – the Human Papilloma Virus – has received frequent media coverage of late and merits a summary of developments in British Columbia and knowledge garnered to date. In August, the BC Government announced that an inoculation program for BC schoolgirls ages nine to 13 will begin in September 2008. The vaccine protects against two types of HPV associated with about 70 per cent of cervical cancers.

The Society of Obstetricians and Gynecologists of Canada (SOGC) and the Canadian Cancer Society are fully supportive of the vaccine and are collaborating with six other medical associations to develop comprehensive clinical guidelines on the screening, diagnosis and treatment of the HPV virus. The guidelines, expected to be available shortly at HPVinfo.ca, will also include evidence-based information on the prevention of HPV including the therapeutic and prophylactic administration of the one vaccine available.

Anyone currently seeking this vaccine in BC needs to check with his/her family physician regarding its availability and to cover the cost of the three doses required over six months at approximately \$500.

Elsewhere in Canada – Ontario, Nova Scotia and Prince Edward Island are set to launch similar HPV vaccination programs this September. Australia already provides the vaccine free of charge to all girls and as does the United States in Texas and Virginia. The SOGC is encouraging all Canadian provinces to provide the vaccine at no cost to all girls and young women between the ages of nine and 26.

Overall, the SOGC reports that awareness and understanding of HPV is especially low particularly among young, sexually active women who are at highest risk for infection. Their knowledge regarding the existence, prevention, transmission, symptoms and consequences of HPV is minimal.

HPV Facts

There are over 100 types of the HPV virus, and, as they are not routinely screened for, their prevalence can only be approximated. It is estimated that 75 per cent of Canadians will have at least one HPV infection during their lifetime and that 10 – 30 per cent of the population is infected. HPV is the most common family of viruses and also the most common sexually transmitted disease in the world. Most types of HPV are harmless, cause no symptoms and clear on their own within 24 months. Some types (Types 6 and 11), however, can cause genital or anal warts while others (Types 16 and 18) can cause pre-cancerous lesions and cancer in the cervix, anus and other genital areas. HPV is spread by skin-to-skin contact with the penis, scrotum, vagina, vulva or anus of an infected person.

HPV Research in BC

Among the ongoing projects, the BC Cancer Agency, in collaboration with the BC Center for Disease Control, UBC Faculty of Medicine and Department of Family Medicine, McGill University Department of Epidemiology, the Provincial Colposcopy Program and about 100 Vancouver area family physicians, is currently conducting a randomized controlled evaluation of HPV testing for Cervical Cancer – the HPV FOCAL Study. The purpose of the study is to evaluate the use of HPV testing within the BC organized Cervical Cancer Screening Program and to demonstrate whether HPV testing can improve the program in BC and serve as a model for other programs within Canada. For more information on this study please contact Laurie Smith at (604) 877-6098 ext. 4829.

The Vancouver Coastal Health Research Institute is also planning a clinical trial focusing on the HPV vaccine for which they hope to be recruiting women ages 16-26 later this fall. For more information on this study please contact Cheryl Davies at (604) 875-5886.

Cancer Information at Point of Care (CI-POC) - An Update

The Family Practice Oncology Network continues to make good progress with the development of a point of care, cancer care information resource for family physicians – a collaborative initiative supported by the Ministry of Health, the BC Medical Association and the BC Cancer Agency. The purpose of this resource, known as CI-POC, is to enable BC family physicians to rapidly find reliable and clinically relevant answers to questions that arise while seeing patients.

CI-POC will be accessible via the web as well as via PDA downloads (Pocket PC and Palm Pilot). The software that supports these functions is called CliniPearls. The initial two cancer modules to be featured on CI-POC include Breast Cancer and Palliative Care and Complications of Cancer. The initial set of modules will be operational likely in time for the BC Cancer Agency's Annual Conference at the end of November.

Community Care Award

Do you know someone who has gone the extra mile in caring for people with cancer?

The second annual BC Cancer Agency Community Care Award is open to nominations. The Award, sponsored by the BC Cancer Foundation, recognizes the value of outstanding contributions made by individuals who care for cancer patients.

If you, or someone you know, have received exceptional cancer care and support, please nominate them. The deadline for nominations is Friday, October 19, 2007. For more information, visit the website at www.bccancer.bc.ca or email conference@bccancer.bc.ca. You can also call 604-877-6000 ext. 4813 or toll free at 1-800-633-3333 ext. 4813.

New Materials for Screening Mammogram Program Give Women a “Call to Action”



PASS IT ON...Your Breast Health Has Support

When you view the new graphic and theme for the BC Cancer Agency's Screening Mammography Program (SMP) – you might wonder what fantasy world we are living in. After all, there's a tree growing pink ribbons.

It may seem fantastical, but the message and the behaviour shift we are trying to cultivate have a very real world view. Primary care physicians are over-burdened, in fact many are not taking on new patients. As a result, people need to be more proactive in maintaining their health.

Unfortunately, women often focus first on family and work responsibilities before they think of themselves.

Therefore, the inherent message in the new redesigned materials for the SMP is: take care of yourself, look out for other women and know that there is a formal program available to support breast health. It's free, easy to access and has been proven to save lives.

The redesigned materials will be found in family doctors' offices, walk-in clinics, community centres and various locations frequented by women. We are also looking at having the information brochure available at large pharmacies like Shopper's Drug Mart, London Drugs, Safeway pharmacy, etc. throughout the province.

The goal of the redesign is to raise awareness of the SMP and increase participation, particularly with women ages 50 to 69. As doctors, you are great ambassadors for the program and your support is essential.

B.C. First to Fund New Drug Therapies for Kidney Cancer

Patients with advanced kidney cancer and gastrointestinal stromal tumours in British Columbia will be the first in Canada to benefit from coverage for the medication Sutent (sunitinib) or Nexavar (sorafenib) announced Health Minister George Abbott this past July.

In reaching its decision, the BC Cancer Agency completed a comprehensive scientific and economic review and developed treatment guidelines for patients receiving the medications.

The funding commitment from the Ministry of Health, the Provincial Health Services Authority (PHSA) and the BC Cancer Agency means that eligible patients with new diagnoses will have access to Sutent immediately, and patients who previously accessed the therapies through clinical trials or the manufacturers' extended access programs will continue to receive treatment.

An estimated 133 patients with kidney cancer will benefit from these drugs each year, at a projected cost of \$2.4 million this fiscal year, and \$3.6 million for 2008/09. Approximately 12 patients with gastrointestinal stromal tumours will be treated with Sutent annually, at a projected cost of \$300,000 for this fiscal year.

Sutant is the reference standard for first-line treatment of patients with advanced kidney cancer, also known as metastatic renal cell carcinoma. Clinical trials have shown that patients treated with Sutent experienced more tumour shrinkage, tolerated treatment better than patients on Interferon – the previous standard treatment, and delayed tumour progression, on average, for 11 months compared to five months. Patients who respond well will remain on therapy for much longer periods.

Nexavar is a chemotherapy drug for the treatment of a small subset of advanced kidney cancer patients who have failed treatment with Interferon and are unsuitable for Sutent. Nexa-

var has been shown to be well-tolerated by patients and to delay tumour progression for twice as long as with patients treated with the former standard second-line therapy.

Sutant will also be available for patients with gastrointestinal stromal tumour, a rare stomach and intestinal cancer, who have failed prior therapy with Gleevec (imatinib mesylate).

The BC Cancer Agency has already conducted preliminary analysis of the survival benefit for renal cancer patients in B.C. treated with Sutent through clinical trials and the manufacturer's extended access program. "Our analysis has shown a survival advantage emerging compared to our previous limited therapy for this difficult to treat cancer," explained Dr. Susan O'Reilly, vice president of cancer care at the BC Cancer Agency.

B.C.'s investment in cancer care and control has increased substantially in the last few years. Overall drug costs for the BC Cancer Agency were \$37.4 million in 2000/01, and are projected to increase to \$114 million.

In 2007, an estimated 420 British Columbians will be diagnosed with kidney cancer and 200 will die of it. Almost two thirds of those diagnosed with kidney cancer will be male. One in 125 females and one in 79 males is expected to develop kidney cancer during their lifetime.

The Ministry of Health, PHSA and the BC Cancer Agency have also approved funding for Caelyx (pegylated liposomal doxorubicin), an intravenous chemotherapy drug for the treatment of advanced ovarian cancer in women who have failed standard first-line therapy. It is estimated that up to 150 women in B.C. can benefit from this drug each year, at a projected cost of \$862,000 for the current fiscal year and just over \$1 million for 2008/09. The role of the drug is to relieve symptoms of progressive ovarian cancer and maintain quality of life.

Family Practice Oncology Network Continuing Medical Education Day

Date: Saturday, December 1, 2007
 Time: 8:15 am– 3:30 pm
 Location: Salon E, The Westin Bayshore Hotel,
 1601 Bayshore Drive, Vancouver, BC
 Registration: Register at www.bccancer.bc.ca/HPI/ACC2007

Time	Topics	Speakers	Room
7:00-8:15	Registration & Sign Up For Concomitant Sessions		
8:15-8:30	Welcome & Preceptor Certificates	Dr. Shirley Howdle Dr. Simon Sutcliffe	Salon E
8:30-9:30	Networking To Improve Cancer Care For Patients	Dr. Tim Huerta	Salon E
9:30-10:00	Electronic Medical Records	Dr. Michael Golbey	Salon E
10:00-10:30	Refreshment Break		Bayshore Grand
10:30-11:00	Palliative Care	Dr. Pippa Hawley	Salon E
11:00–11:30	Palliative Chemotherapy	Dr. Ursula Lee	Salon E
11:30-12:00	Palliative Radio Therapy	Dr. Susan Balkwill	Salon E
12:00-1:00	Lunch – Preceptors’ Lunch	Round Table What Is Working In Our Communities?	Salon E
1:00 – 3:00 40 Min. sessions	Concomitant Sessions #1 – Core Biopsies & Sterotactic Biopsies	Dr. Noelle Davis	Salon E
1:00 – 3:00 40 Min. sessions	Concomitant Sessions #2 – Brachytherapy	Dr. Frances Wong	Cowichan Room
1:00– 3:00 40 Min. sessions	Concomitant Sessions #3 – Sentinel Lymph Node Biopsies	Dr. Rona Cheifetz	Coquitlam Room
3:00	Closing Remarks & Door Prize	Dr. Shirley Howdle Dr. Phil White	Salon E

Upcoming Events

November 1 – 4
Canadian Association of General Practitioners in Oncology
 Ottawa Marriott Hotel
www.cos.ca/cagpo/web/sides.html

November 29 – December 1
BC Cancer Agency Annual Cancer Conference
 Westin Bayshore Hotel
 Vancouver
 The FPON Continuing Medical Education Day is Saturday, December 1
 Contact Gail Compton at 604.707.6367 for more details

Ongoing Training at UBC
Pocket PC/Windows Mobile Workshop for Physicians
 This half day small-group workshop is intended to help physicians master the personal digital assistant (Pocket PC or Windows Mobile).

Contact UBC Continuing Professional Development - Knowledge Translation at 604.875.4111 local 60136 or email at: digmed@cpdkt.ubc.ca

For more information got to: www.cpdkt.ubc.ca/Events/Dig-Med.htm

BC Cancer Agency Pilots On-line Support Program For Younger Patients Living With Breast Cancer

A new BC Cancer Agency study gives younger women living with breast cancer the opportunity to meet peers and learn coping skills online. This 10-week at home program provides an educational handbook and the opportunity to join online BC Cancer Agency counselor-led discussion groups. Learning topics include communication and problem solving around cancer related issues, the value of goal setting, relax-

ation techniques, and healthy living. The pilot is part of a larger program initiative through Patient and Family Counseling to develop online supportive care resources for cancer patients. Enrolment is suitable for women 50 and under living in BC and the Yukon, who are within three years of breast cancer diagnosis. The study is currently enrolling participants for groups being offered over the next two years.

For posters and patient handout information for your clinic, please contact the study coordinator, Jennifer Macdonald, 930-4055 ext 4588 or email jmacdonald3@bccancer.bc.ca. Your patients can also be directed to the study website for more information <http://canada.thewellnesscommunity.org>. Funding for the study has been provided by the Canadian Breast Cancer Foundation

Complications and Toxicities from Chemotherapeutic Agents

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essential team members in the assessment and treatment (e.g. possible splinting) of vincristine related hand or foot neuropathy. A rare (but serious) manifestation of peripheral neuropathy is vocal cord paralysis. Children may present with a weak or hoarse voice, and if both vocal cords are affected, respiratory failure may ensue. If vocal cord paralysis is suspected, an urgent Otolaryngology consult is mandatory. Other side effects to note include SIADH and associated hyponatremia.

Mercaptopurine and thioguanine are members of the antimetabolite group of agents (1). They are usually given orally, and common side effects include myelosuppression and hepatotoxicity. Rarely patients may develop a severe form of hepatic dysfunction called veno-occlusive disease. This is a severe and potentially life threatening complication, manifested by jaundice, hyperbilirubinemia, abdominal pain and weight gain due to ascites.

Asparaginase is an enzyme which degrades asparagine, an important nutrient for lymphoblastic leukemia and lymphoma cells (1). Asparaginase may be given in a short acting (L'-asparaginase) or long-acting preparation (PEG-asparaginase). Due to the high incidence of allergic reactions, it is given intramuscularly. Allergic reactions may range from local redness to anaphylaxis. Other important side effects include pancreatitis and hepatitis, and abnormalities of the coagulation system may result in bleeding or clotting (1).

Methotrexate is a drug which interferes with folate metabolism, and may be given via several routes (1). It is used in the treatment of many types of childhood cancers. Common side effects of methotrexate include mucositis, particularly after high dose infusions ($> 1\text{g}/\text{m}^2$), and liver toxicity. Both intrathecal and high dose intravenous methotrexate can cause leukoencephalopathy, which is central nervous system white matter damage (2).

Leukoencephalopathy is seen most often in patients who have had extensive treatment to the central nervous system, including radiation therapy.

Doxorubicin is an antibiotic chemotherapeutic agent in the class of drugs known as anthracyclines (2). Doxorubicin is used to treat acute leukemias, sarcomas and many other solid tumors. Anthracyclines are well known to cause cardiac toxicity such as dilated cardiomyopathy and arrhythmias (1). Cardiac dysfunction may develop shortly after the drug is administered, or even up to 10 years later. Consequently, close cardiac follow-up is required. Doxorubicin is metabolized in the liver, and can cause elevation in the transaminases or bilirubin levels (2). In addition to nausea, vomiting and diarrhea, doxorubicin may also cause significant mucositis (1).

Cyclophosphamide is a nitrogen mustard derivative in the category of alkylating agents, and used to treat many childhood cancers (1). In addition to nausea, vomiting and myelosuppression, one of the major side effects is hemorrhagic cystitis (1). This condition is due to a toxic metabolite called acrolein (1). The risk of hemorrhagic cystitis is dose related, and when higher doses are given another drug called Mesna is often co-administered to bind acrolein and reduce toxicity. Long-term side effects include secondary malignancies and infertility.

Dexamethasone and prednisone are glucocorticosteroids used in the treatment of acute lymphoblastic leukemia. Common side effects include increased appetite, fluid retention and weight gain, acne, mood and sleep disturbance, hyperglycemia, bony pain, osteoporosis, hypertension and gastric ulceration. Due to possibility of gastritis, children are concomitantly given ranitidine. Steroids also make patients more vulnerable to viral and fungal infections. Long term use of steroids may result in adrenal suppression, and should be considered if a child presents in shock. An-

other important side effect to consider is avascular necrosis (AVN). Teenagers, especially females, are at increased risk of AVN. When suspected, appropriate imaging and referral to an orthopedic surgeon are required.

While this list of medications and their side effects is not exhaustive, it serves as an introduction to guide those involved in the care of the children receiving them. Advances in the treatment of childhood cancer has improved in great part due to the improved dosing and scheduling of known medications, and a better understanding of the associated supportive care required (1).

More information is available at: www.kidscancer.bc.ca.

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For More Information

To learn more about the Family Practice Oncology Network or become involved please contact:

Gail Compton,
Administrative Coordinator

Tel: 604.707.6367

e-mail: gcompton@bccancer.bc.ca

Visit the Network Website:

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