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CANCER talk

› CONNECTING WITH MANITOBA'S HEALTH PROFESSIONALS

POSITRON EMISSION TOMOGRAPHY (PET)

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Dr. Bohdan Bybel and Dr. Sandor Demeter with the HSC PET Scanner

POSITRON EMISSION TOMOGRAPHY (PET) is an exciting innovation in nuclear medicine imaging. While computed tomography (CT) and magnetic resonance imaging (MRI) provide anatomic information, PET imaging depicts physiologic processes. PET images can lead to earlier diagnosis, more accurate staging, and better therapy response assessment. Most PET scanners are now hybrid PET/CT units.

Hybrid PET/MRI is a more recent innovation. Hybrid PET/CT adds incremental clinical benefit by simultaneously depicting both functional and anatomic information.

Oncology (i.e. diagnosis, staging, therapy response and assessing for recurrence) is the most common indication for PET/CT imaging in Winnipeg. A smaller number of neurology cases are done for seizure disorders and dementia. Other indications (e.g. infection) are rarely performed here. Cardiac PET/CT (i.e. viability, myocardial perfusion imaging) is currently not done in Winnipeg but may become possible if the PET/CT program expands.

Fluorodeoxyglucose (FDG) is a slightly altered form of glucose labeled with fluorine-18 that is the primary PET radio-tracer. The hallmark of malignancy is uncontrolled proliferation of abnormal cells, which generally metabolize glucose at relatively higher rates. This characteristic is the basis for the use of FDG PET/CT for oncologic indications. Numerous other PET tracers have been developed but are not yet commercially available.

One of the first applications of PET was in the workup of indeterminate solitary pulmonary nodules found on chest radiography or CT. PET/CT can help distinguish the risk of such nodules being benign versus malignant.

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The PET/CT results help clinicians decide whether the patient can be monitored over time or if they should biopsy the nodule on a more urgent basis.

Lung cancer is a prime example where PET/CT changes patient management in up to 40% of cases due to its superior staging accuracy over conventional imaging.

The goal of restaging is to detect residual or recurrent disease after treatment. Follow-up PET imaging can be considered in two groups of patients: those in whom other imaging or laboratory studies raise the concern of relapse, and those in whom the response to treatment needs to be gauged. In lymphoma, persistently elevated FDG uptake in a mass after therapy is a relatively specific sign of viable tumor and denotes a poorer prognosis than those who have resolution of hypermetabolic abnormalities.

In head and neck tumors, recurrences are often challenging to detect by CT or MRI alone, as surgery or radiation therapy can significantly distort the normal anatomic landmarks. PET/CT more precisely delineates the enhanced FDG uptake, making it easier to differentiate between recurrent neoplasm and inflammatory or physiologic uptake.

PET/CT scans in Manitoba have been performed at the Great West Life PET/CT Centre at the Health Sciences Centre since 2005. At present there is only one PET/CT scanner performing about 2000 studies a year. The studies are interpreted by experienced Nuclear Medicine physicians. Only medical, radiation and surgical oncologists, and some other subspecialists (e.g. respirologists, neurologists) can order PET/CT studies.

PET/CT imaging has become a standard of care for many oncology indications and demand is growing. Manitobans have benefited greatly by having this service available to them.

Straight Talk About Esophageal Cancer

Dr. Biniam Kidane, Thoracic & Foregut Surgeon, HSC, Assistant Professor of Surgery, U of M, Adjunct Scientist, RIOH, CCMB

Esophageal cancer is curable.

Sadly, esophageal cancer has long been viewed through a somewhat nihilistic lens. This historical but incorrect viewpoint is related to two factors. First, esophageal cancer is often silent, tending to be discovered when dysphagia occurs. Unfortunately, by the time the cancer is causing dysphagia, it is already in later stages. Although these stages are still potentially curable, the cure rate is lower than if patients were identified in earlier stages. The second factor is that the treatment of esophageal cancer in Stage 2 and 3, which can include a combination of surgery, chemotherapy and radiation therapy, is intense and is associated with many potential complications. Studies have shown that health-related quality of life in patients typically takes about six months (after treatment completion) to get back to the level that it was prior to treatment. These two factors interact with each other to create a sense of hopelessness. Late diagnosis leads to patients either being incurable (i.e. Stage 4) or curable only through intense therapy, which may itself put patients at risk for death or transient or long-term reduction in quality of life. However, it does not have to be this way.

Early diagnosis is possible. The most common type of esophageal cancer in North America is adenocarcinoma and is predominantly due to a long history of gastro-esophageal reflux disease (GERD). Endoscopy of patients with GERD allows for early identification of esophageal cancers or Barrett's esophagus, which is a precursor to esophageal cancer. Early diagnosis through appropriate use of endoscopy allows for much higher success in cure as patients can be identified in Stage 1 or 2. Furthermore, patients in Stage 1 can be cured with a removal of the cancer via endoscopic means in a procedure called Endoscopic Submucosal Dissection (ESD).

During ESD, the patient undergoes general anesthetic and the surgeon performs an endoscopy through the mouth, cutting out the cancer from the inside without making any incisions on the outside. This procedure requires specialized training and only a few centers in Canada offer it. At Winnipeg's Health Sciences Center, we have had an ESD program since January 2017. This has allowed us to give curative surgical treatment to patients who would not otherwise have been able to tolerate the traditional esophageal cancer surgery (i.e. esophagectomy). Even in those patients who can tolerate an esophagectomy, ESD provides cure without taking on the associated risks and

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Health Equity and the Underserved Populations Program

Morgan Stirling & Dr. Mark Kristjanson

Although many have heard of CancerCare Manitoba's Underserved Populations Program, you may still be asking yourself "what exactly do they do"? In brief - we help patients and families who are facing barriers throughout their cancer journey.

Significantly, this aligns with work being done within health and cancer care systems globally. Stemming from an increased understanding that one's health and wellbeing often have less to do with biological or genetic makeup than the influence of one's life and living conditions (Canadian Medical Association, 2012), there has been a shift in focus towards health equity and addressing health disparities between populations that arise from social disadvantage.

There are many patients and families across the province facing challenges in accessing the care they need. Whether they are the challenges associated with living in a rural or remote community, difficulty affording treatment, obtaining sound guidance on the risks and benefits of complimentary therapies or prescription medications there are many ways barriers can manifest during someone's cancer journey.

CancerCare Manitoba recognizes it is possible to overcome many of the challenges patients and families face. CCMB has been working to improve its ability to meet the needs of patients who need more help. Some of that work includes: helping patients and families access supports and services necessary for treatment; developing resources for clinicians to help in safe care planning; and, educating staff on practical ways of providing equitable care. While there is still much to be done, we are making strides in ensuring all patients receive the care they deserve.

CancerCare Manitoba

Timely Access and Enhanced Patient Flow

Dr. Sri Navaratnam, President & CEO, CancerCare Manitoba

One of CCMB's top priorities for 2018 is ensuring timely access to multidisciplinary cancer services and enhancing patient flow.

An important step in the cancer journey is the initial diagnosis and referral to CCMB. Assistance in navigating these early steps is an important service that supports timely access.

This year, we are expanding the scope of the Central Referral Office by combining it with the Winnipeg Navigation Services with the new name of *Provincial Central Cancer Referral and Navigation Office.* This will enhance the services already in place and will provide Manitobans with a standardized and comprehensive referral process, further supporting and improving timely access to care and patient flow. The navigation team will be able to assist patients with suspected cancer in Winnipeg and will also connect and provide leadership to the navigation services in rural Manitoba.

Navigation services will also be available to patients at other junctures of the journey, especially when they are ready to transition from CCMB to Primary Care, Survivorship or Palliative Care.

We look forward to providing these improved services to the province of Manitoba.

If you have questions regarding the work-up of suspected cancer or any other cancer-related questions, please contact: **Helpline for Healthcare Professionals**

Monday to Friday: 8:30 a.m. to 4:30 p.m.
Call or text 204-226-2262
Email: cancerquestion@cancercare.mb.ca

ASK THE Cancer Expert

Dr. Eric Bow - Oncology & Transplant Infectious Diseases, Hematology/Oncology, Blood & Marrow Transplant, Professor, Departments of Medical Microbiology & Infectious Diseases & Internal Medicine, U of M, Director, Infection Control Services, CCMB

QUESTION: **"SHINGRIX has been approved in Canada for the prevention of shingles (herpes zoster) in people aged 50 years or older. What should we say to our cancer patients about the new, "non-live" subunit shingles vaccine?"**

ANSWER:

The incidence of Herpes zoster (shingles) among cancer patients receiving chemotherapy is fourfold that of healthy adults[1, 2]. Post-herpetic neuralgia, Zoster ophthalmicus and Herpes encephalitis can all complicate shingles. Zostavax®, the live attenuated high-dose Oka strain-based vaccine for Herpes zoster, has an efficacy for prevention of shingles of 51% and for preventing post-herpetic neuralgia of 67%. However, the vaccine effectiveness appears to decrease from 69% overall at the first year to only 4% after 8 years[3]. The new vaccine is based upon a recombinant Varicella-zoster virus glycoprotein E in a novel adjuvant, ASO1B, which enhances the CD4 T-lymphocyte response important in the control of reactivation of latent Varicella-zoster virus. Two recent studies have demonstrated in immunocompetent persons aged ≥ 70 years an efficacy for preventing shingles of 90-98% and for PHN of 89%[4, 5]. At least two sequential doses of the new vaccine are required. Compared to placebo, there was almost a 1.7-fold increase in local or systemic reactions and almost a 5-fold increase in reactions sufficient to impair normal activity over the first 7 post-vaccination days[5].

We currently don't know enough about the effects of the new, "non-live" subunit vaccine on patients with immune compromise related to cancer or its treatment to advise for or against the use of this product in patients with cancer. We advise against the use of the live virus shingles vaccine in patients who are undergoing active treatment for cancer, and until all treatment has been completed for at least 3 – 6 months. One randomized placebo-controlled study from the University of Pennsylvania[6] examined the CD4 and CD8 responses in autologous stem cell transplant recipients. The investigators noted the need for three doses rather than two to achieve both humoral and cellular responses; further, they observed differences according to the underlying malignancy (lower in patients with NHL where anti-CD20 therapy was used, and in those where fludarabine and bendamustine were used as lymphocyte depleting strategies). Vaccine efficacy may not be uniform across the spectrum of cancer patients and their treatments[7].

In response to questions from our patients about this new product, the conversation will have to focus upon the relative benefits (reduced incidence of HZ and PHN) over the potential disadvantages such as the two- or even three-dose requirement, the increased incidence of side effects, and unknown efficacy in patients receiving immunosuppressive treatment. We also don't yet know if the province will be covering the cost of this vaccine.

*References available on request

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physiological changes of an esophagectomy. In patients that are in higher stages, ESD is not appropriate and an esophagectomy is necessary. Although this is a big surgery, we can now do many of these operations in a minimally invasive way (with thoracoscopy and laparoscopy) which allows patients to regain their quality of life faster after treatment. Furthermore, comprehensive peri-operative care organized by expert thoracic surgeons & anesthesiologists allows for reduced complications and treatment-related death.

Esophageal cancer is curable. Early diagnosis and expert care can make that happen.

GO PAPERLESS!

If you would like to receive Cancer Talk electronically, please email **rporter@cancercare.mb.ca**

NEWS FROM GetChecked Manitoba

CancerCare Manitoba
CervixCheck

CervixCheck study finds unscreened women four times more likely to screen with HPV self-sample test

HPV DNA testing has been shown to be an effective alternative to the Pap test for cervical cancer screening. HPV DNA testing also provides a platform for self-sampling, which enables women to collect their own specimen in private, at a time and place of their choosing. Self-sampling has the potential to increase screening uptake by removing many of the individual -level, physician-level and system-level barriers unscreened women encounter - women who are most at risk for cervical cancer.

In March, 2017, CervixCheck launched a prospective study to compare the screening participation of unscreened women who received an HPV self-sample test with a group of women who did not receive an HPV self-sample test. Both groups of women were "non-responders", meaning CervixCheck had previously sent an invitation letter to each woman but the recipients remained unscreened.

For this study, HPV self-sample packages were mailed to 529 participants in the intervention group and 523 women were selected for the control group. Packages included an invitation letter (with a multi-lingual phrase), test instructions, a response/consent form, an educational brochure, a self-sampling swab, a biohazard bag and a postage paid return envelope. The participation rates for the intervention and control groups. Sixteen (3.0%) recipients declined participation and 436 (82.4%) failed to respond. Fifty-one (10.1%) HPV self-sampling tests were completed and returned to CervixCheck in the intervention group, whereas 13 women in the control group (2.5%) had a Pap test within the six month study timeframe. Unscreened non-responder women who were offered an HPV self-sample test were four times more likely than controls to complete cervical cancer screening (95% confidence interval, 3.1-5.2). Neither area of residence (urban versus rural) nor age were found to be significant factors in participation for either the intervention or the control group.

This study demonstrates that self-sampling can enhance screening participation in unscreened non-responder women in an organized screening program setting. The results of this study are consistent with the success demonstrated by many other jurisdictions that have examined the impact of HPV self-sampling.

Given the large proportion of non-responders, the study yielded high-waste and high cost of unused kits. Alternately, kits that were completed and returned placed a high demand on program human resources, as the follow-up efforts required for study participants were significant and beyond the usual scope of program operations.

For future studies, self-sampling participation may be enhanced with alternate implementation strategies (e.g. opt-in versus opt-out model; community development approach that facilitates more education and support) and different target populations (e.g. women who are overdue for screening). More research is required to determine the best implementation strategy i.e. one that balances enhanced participation, cost effectiveness and program capacity.

Nevertheless, the current study further illustrates that HPV self-sampling is a viable screening option for women most at risk for cervical cancer, and supports the growing evidence and trend to move from Pap tests to HPV tests for cervical cancer screening.

Nutrition Education Sessions for Patients and Families

In addition to providing individual nutrition consultation, CancerCare Manitoba dietitians offer nutrition education sessions on a variety of topics throughout the year. Topics have included protein needs during treatment, nutrition and gut health, sugar and cancer, management of hyperglycemia and weight management to reduce cancer recurrence risk. For more information about upcoming sessions, please contact Patient & Family Support Services at 204-787-2109 or toll free at 1866-561-1026.

HOW TO REACH US

CCMB REFERRAL CENTRE
204-787-2176
FAX: 204-786-0621
M-F, 0830-1630, closed Stat Holidays

Emergency Referrals:
HSC PAGING: 204-787-2071
ST. BONIFACE PAGING: 204-237-2053

CANCER QUESTION? HELPLINE FOR HEALTH CARE PROVIDERS
204-226-2262 (call or text/SMS)
EMAIL: cancer.question@cancercare.mb.ca
WEB FORM: cancercare.mb.ca/cancerquestion
M-F, 0830-1630, closed Stat Holidays

CCMB SCREENING PROGRAMS BREASTCHECK - CERVIXCHECK - COLONCHECK
1-855-952-4325
GetCheckedManitoba.ca

CANCERCARE MANITOBA
TOLL FREE: 1-866-561-1026
(ALL DEPARTMENTS & CLINICS)
www.cancercare.mb.ca

Inquiry & Reception
MCDERMOT UNIT (HSC) 204-787-2197
ST. BONIFACE UNIT 204-237-2559

Pharmacy: 204-787-1902

COMMUNITY CANCER PROGRAMS NETWORK (CCPN) OFFICE, CCMB
204-784-0225

MANITOBA PROSTATE CENTRE, CCMB
204-787-4461
FAX: 204-786-0637

PAIN & SYMPTOM MANAGEMENT
204-235-2033—Ask for pain & symptom physician on call
M-F: 08:30-16:30

PALLIATIVE CARE CLINICAL NURSE SPECIALIST
204-235-3363

PATIENT AND FAMILY SUPPORT SERVICES, CCMB
Psychosocial Oncology, Dietitians, Speech Language Pathology, Guardian Angel Caring Room, Patient Programs, Navigator Newsletter
204-787-2109

UNDERSERVED POPULATIONS
204-784-0223

BREAST & GYNE CANCER CENTRE OF HOPE
204-788-8080
TOLL FREE: 1-888-660-4866
691 Wolseley St.
Winnipeg MB R3C 1C3

WESTERN MANITOBA CANCER CENTRE
204-578-2222
FAX: 204-578-4991
300 McTavish Ave. East
Brandon MB R7A 2B3

OTHER NUMBERS:

CANCERCARE MANITOBA FOUNDATION
donations & inquiries: 204-787-4143
TOLL FREE: 1-877-407-2223
FAX: 204-786-0627

CANADIAN CANCER SOCIETY
VOLUNTEER DRIVERS: 204-787-4121
TOLL FREE: 1888-532-6982

CANCER INFORMATION SERVICE:
TOLL FREE: 1-888-939-3333

CANADIAN VIRTUAL HOSPICE
virtualhospice.ca

WRHA BREAST HEALTH CENTRE
204-235-3906
TOLL FREE: 1-888-501-5219

ANNOUNCEMENTS

CCMB bids farewell to Dr. Brent Schacter

I have spent my entire 46 year professional career at CancerCare Manitoba in a variety of roles: clinician, basic and clinical trials researcher, administrator and board member. As I will be retiring at the end of June, I have an opportunity to reflect on my career and on the major and important advances that have been made in cancer treatment and care and cancer control since I started in practice in 1972. The first two decades were largely taken up with advances in treatment based on the demonstrated effectiveness of new cancer drugs in a variety of different kinds of cancers. More recently, the delineation of the human genome and major advances in more sensitive and targeted techniques in cancer research have exploited our newfound understanding of the molecular biology of the cancer cell to develop targeted therapies that turn off pathways that permit cancers to grow, resulting in better responses to new and innovative treatments. Advances in our understanding of the immunology of the cancer cell has allowed us to develop new immunotherapeutic approaches which have become very effective in controlling cancer. Stem cell therapy in transplantation and precision radiotherapy have yielded further advances. Moreover, the scope of CancerCare Manitoba has broadened to include important programs in cancer prevention and cancer screening. All of these innovative programs have led to increased hope for survival and cure of cancer. And the advances will continue and likely accelerate as we deepen our understanding of the molecular mechanisms that cause cancer so we are better able to treat our patients not only with compassion and understanding, but with approaches that offer increased hope for control and cure. It has truly been most gratifying to be part of this almost half century of advances in cancer control here at CancerCare Manitoba, which is a Canadian leader in cancer treatment, research and control.

Brent Schacter MD FRCPC