CANCERtalk
› CONNECTING WITH MANITOBA'S HEALTH PROFESSIONALS
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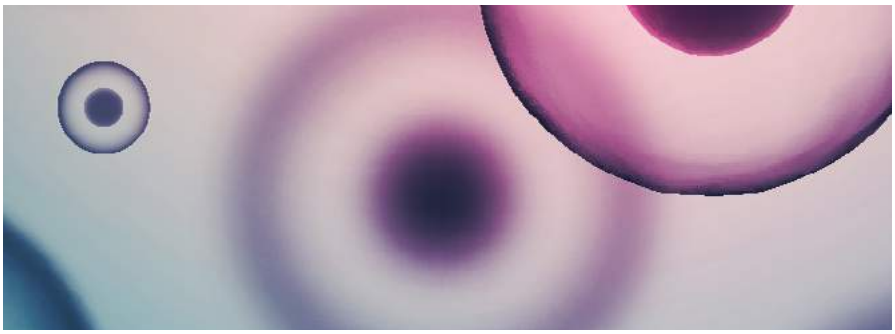
WORK UP OF SUSPECTED *MULTIPLE MYELOMA*

Dr. Mark Kristjanson



Patients with myeloma often present with an anemia of chronic disease; others present with fatigue, or bone pain (such as persistent back pain, with or without obvious lytic lesions and/or mottling of bones on plain radiography) or with weight loss or declining renal function. If laboratory investigations discover unexplained hypercalcemia, a normocytic or macrocytic anemia, unexplained renal dysfunction, or lytic bone lesions or vertebral compression fractures, myeloma should be entertained on the differential diagnosis.

The normal role of the plasma cell is to produce immunoglobulins, AKA antibodies. Myeloma is a malignant proliferation of a clone of plasma cells. Such a malignant clone typically secretes an antibody fragment (either an immunoglobulin heavy chain or a light chain) known as an M-protein. The M-protein can be detected by electrophoresis on serum (SPEP) or urine (UPEP); monoclonal light chain fragments can also be detected on serum free light chain testing. Prior to eventual transformation into myeloma, the underlying clonal plasma cell proliferation typically exists for many years or even decades as a benign disorder, viz., Monoclonal Gammopathy of Undetermined Significance, or MGUS. Estimated to be present in > 3% of the North American population over age 50, most cases of MGUS never progress to a malignant form, and are detected incidentally during the work up of unexplained renal dysfunction, anemia, hypercalcemia, premature osteoporosis, unexplained neuropathies, or hyper- or hypogammaglobulinemia.

Thus, Monoclonal Gammopathy of Undetermined Significance (MGUS) is a lymphoplasmacytic disorder caused by the proliferation of a clone of cells which produce an M-protein consisting of all or part of an immune globulin, whether IgG (most common), IgA, IgD, IgM, or pure light chains (which can be kappa or lambda). Over time, such benign plasma cell monoclonal proliferations can progress to meet diagnostic criteria for multiple myeloma, or, less commonly, Waldenström macroglobulinemia, AL ("primary") amyloidosis, light chain deposition disease, heavy chain deposition disease, or POEMS. MGUS is diagnosed if a patient with a monoclonal gammopathy has a serum M-protein concentration < 30 g/L, < 10% monoclonal plasma cells on bone marrow biopsy, and no end-organ damage (hypercalcemia, renal dysfunction, anemia or bone lesions) attributable to the monoclonal plasma cells or to the protein they produce.

CONTINUED ON NEXT PAGE

PAGE 1 CONTINUED

Smouldering myeloma is diagnosed if the M-protein rises above 30 g/L, or bone marrow biopsy demonstrates > 10% but < 60% monoclonal plasma cells, and there is no end-organ damage.

Multiple myeloma is diagnosed when two conditions obtain:

1. Clonal bone marrow plasmacytes constitute 10% (or more) of the cells on bone marrow biopsy (or there is a biopsy proven plasmacytoma of bone or soft tissue);
2. The neoplastic proliferation of the clone of plasma cells responsible for a monoclonal gammopathy, irrespective of the measured M-protein concentration, progresses to the point of causing end organ damage. That end-organ damage, to be diagnostic of myeloma, must meet one or more of the so-called CRAB criteria.

C = hypercalcemia, defined by a serum calcium > 2.75 mmol/L

R = renal dysfunction defined by an eGFR <40 (or serum creatinine > 177 umol/L)

A = anemia defined by a Hb < 100 g/L (or > 20 g/L below normal)

B = bone lesions, meaning one or more lytic lesions measuring 5 mm (or more) in diameter on skeletal survey or other imaging test such as MRI.

Lab investigations to pursue in order to rule out or to diagnose myeloma should include a serum protein electrophoresis (SPEP), plasma free light chain (PFLC) ratio, BUN, Cr, corrected calcium, and a CBC. A skeletal survey should be obtained. In some instances (for example if there are neurologic findings suggestive of a radiculopathy or an evolving cord compression, vertebral compression fractures, unexplained osteoporosis, or persistent bony pain in spite of normal plain radiographic findings) an MRI should be ordered. For a concise summary on when to order an SPEP and how to work up suspected myeloma visit http://www.cancercare.mb.ca/resource/File/Cancer_Patient_Journey/When_to_Order_SPEP-CCMB_2015.pdf

THEM'S THE BREAKS
CALCULATING THE RISK OF PATHOLOGIC FRACTURES

Dr. Mark Kristjanson

You have a 64 year old patient with a history of multiple myeloma. He comes to your office today complaining of an ache to his right thigh and knee which has been worsening over the past 7 days. He reports that the pain is exacerbated by weight bearing, and wakes him at night. You request X-rays be done emergently, and your on-site X-ray clinic obtains a plain radiograph of the right hip, femur and knee. The X-rays reveal generalized slight mottling of the femur, as well as a more obvious 3 cm lytic lesion in the peritrochanteric region of the femur. Approximately 50% of the cortex appears to be eroded by this lesion.

What is your next step in the management of this complication of your patient's myeloma?

In an article published in 1989 in Clinical Orthopaedics and Related Research entitled "Metastatic Disease in Long Bones: A Proposed Scoring System for Diagnosing Impending Pathologic Fractures", Hilton Mirels recommended an evidence-based tool for estimating fracture risk in patients with bony metastases (see table below). In his retrospective chart review he found statistical correlations between the size of a lesion (specifically, the amount of cortical bone destruction present), the nature of the lesion (blastic, mixed, or lytic), and the degree of pain. He also incorporated a rating of risk by site of lesion, even though no statistically significant correlation has been obtained for this particular domain. When the various domains are scored and those numbers are summed, the total can range from 3 to 12. Patients whose total score was less than 7 were deemed not at risk for pathologic fracture and can be treated with radiotherapy, bisphosphonates, and/ or chemotherapy. A score of 8 carries a 15% fracture risk, and clinical judgement was recommended with respect to the need for prophylactic fixation of the bone. For all patients with a score of 9 or greater, the recommendation was to urgently refer to an orthopaedic surgeon for prophylactic fixation. Interestingly, irrespective of the total score all patients in whom pain was aggravated by function went on to fracture in Mirels' study (p = 0.0001). In this case, your patient has a trochanteric lesion (score of 3), which involves about 1/2 of the cortex (score of 2), is lytic in nature (score of 3), and is worse with weight bearing (score of 3). This results in a total score of 11. Based on Mirels' study, the recommendation would be to counsel your patient to avoid bearing weight on the affected limb pending an urgent consultation with an orthopaedic surgeon for consideration of prophylactic fixation.

SCORE	SITE OF LESION	SIZE OF LESION	NATURE OF LESION	PAIN
1	Upper limb	< 1/3 of cortex	Blastic	Mild
2	Lower limb	1/3 – 2/3	Mixed	Moderate
3	Trochanteric region	> 2/3 of cortex	Lytic	Functional

FEELING TIRED?
CANCER-RELATED FATIGUE

Jill Sutherland

Fatigue is the most common symptom reported by cancer patients in Manitoba. Moderate fatigue (scores of 4-6) is reported on 25% of ESAS-r tools completed by patients. Severe tiredness (scores of 7-10) is reported on nearly 15%.

This trend is consistent across time and has been observed across age groups, gender, and disease sites. While most individuals in the normative population will experience fatigue, the prevalence and severity is significantly higher in cancer patient populations; up to 90% of cancer patients will experience fatigue over the course of treatment, with one third experiencing persistent fatigue for years after treatment is completed.[1, 2] Fatigue affects many aspects of quality of life and is often reported by patients as the most distressing symptom experienced.[2]

Want to support your patients to self-manage aspects of fatigue and promote consistent use of credible, evidence based resources between healthcare providers across the province? Visit the CCMB website to access high quality, evidence based patient resources, including a soon to be released Living Your Best Life: Cancer Related Fatigue Video Series.

Cancer Navigation Services pays off for Selkirk doctor

Judy Edmond

Dr. Ian Alexander MD says a phone call or letter to Cancer Navigation Services pays off tenfold in terms of saving him time and trouble down the road. "It takes so little to pick up the phone and make contact to these people who are there to help provide better patient care. It is an investment in your time that pays off in terms of improved health care," he told CancerTalk.

Cancer Navigation Services are available in every Manitoba health region. The navigation services' team works closely with the family doctor to assist in the coordination of diagnostic testing and referral to a cancer specialist. By coordinating these appointments, patients get to treatment faster.

In 2014 when Dr. Alexander was new to practicing, he felt he knew what to do in order to get a patient diagnosed. "I felt that navigation was a kind of a gimmick. Hundreds of people get through the system every year and don't have any problems, so what's the point of navigation," said Alexander.

However, very early in his career he got to have quite a bit of experience because the navigators started phoning him for patients who had cancer and needed a family doctor to quarterback their care.

"I realized that there were no bonus points in doing this without navigation. These were key members of the health care team that wanted to do the same thing that I wanted to do– they wanted to provide the best care for our patients."

Dr. Alexander also works in the Selkirk emergency room. "The unfortunate reality is that we diagnose a lot of cancers in the emergency department. Navigation provides some continuity for these patients. As an emergency room doctor I don't provide that continuity. Now when I diagnose someone in the emergency room, I phone up Cancer Navigation and talk to them on the phone. I honestly think that navigation has provided better care for these patients to get the ball rolling and get them to treatment sooner."

Call 1-855-837-5400 for more information about Cancer Navigation Services

The CancerCare Manitoba *Breast and Gyne Cancer Centre of Hope*

The CancerCare Manitoba Breast and Gyne Cancer Centre of Hope is a resource centre that provides education, information and support for women with breast or gynecological cancer.

If you would like to refer a patient for education support or have any questions, contact:

Michelle Ellwood, R.N., Gyne Cancer Patient & Family Educator

Lori Santoro, B.N., Breast Cancer Patient & Family Educator
Phone: 204-788-8080 or toll free at 1-888-660- 4866

MYELOMA AND IMMUNIZATION

Dr. Eric Bow

Infections are a major cause of excess morbidity and mortality among patients with plasma cell dyscrasias, including multiple myeloma, Waldenstrom's macroglobulinaemia (WM), and monoclonal gammopathies of uncertain significance (MGUS). There are some vaccines which can and should be given to patients with myeloma, but timing is everything. Read on...

Inactivated vaccines may be given safely to patients with myeloma. These vaccines should be administered at least 2 weeks before starting immunosuppressive therapy. The 13-valent pneumococcal conjugate vaccine should be followed in 8 weeks by the 23-valent polysaccharide vaccine. A single dose of the Haemophilus influenza conjugate vaccine may be appropriate if the patient has not received this previously. Lastly, the Meningococcal quadrivalent conjugate vaccine (Men-C-ACWY) and the Type B Meningococcal conjugate vaccine (4CMenB) may also be considered. The meningococcal vaccines should be followed in ≥ 8 weeks by a second dose.

Shingles afflicts 10-15% of myeloma patients, and is especially common with bortezomib and dexamethasone-based induction therapy. Prophylaxis with valacyclovir (500 milligrams orally twice daily) is recommended.[17] Zoster vaccine may be considered for early stage (ISS I, or Salmon-Durie I) myeloma where the Haematologist/Oncologist has elected to observe without specific anti-myeloma therapy. It is essential that this decision be made in consultation with the patient's hematology-oncology consultant.

Patients who have not received the Pneumococcal vaccine in advance (and who may be also at risk for Pneumocystis jirovecii pneumonia) might benefit from prophylaxis with trimethoprim-sulfamethoxazole (160/800 to 320/1600 milligrams orally daily); however, clinical trials to support such a strategy are lacking.

About 1 in 4 patients with hematological malignancies vaccinated for Hepatitis B develop protective levels of antibodies.[18] Among patients receiving active chemotherapy and who have serological evidence of past HBV infection characterized by circulating Hepatitis B surface antigen (HBsAg) the risk for significant clinical and biochemical hepatitis is between 30-60%. Those with occult infection (HBsAg-negative but HB-core antibody-positive) are also at risk for re-activation, particularly if there is significant HBV DNAemia. Such patients may benefit from lamivudine-based prophylaxis.[19]

Annual vaccination with inactivated influenza vaccine is strongly recommended, even for those patients undergoing active chemotherapy. Some centers have recommended oseltamivir (75 mg daily for 10 days) following patient exposure to a documented symptomatic case of influenza infection.[21] Vaccination of members of the patent's household is also strongly recommended.

SCREENING CORNER

CancerCare Manitoba ColonCheck

MARCH IS COLORECTAL CANCER AWARENESS MONTH!

ColonCheck is preparing for an exciting month promoting colorectal cancer screening awareness to Manitobans with our "Don't just sit there" campaign.

Your recommendation counts!

- Talk to your patients about the importance of regular colorectal cancer screening.
- Request a Fecal Occult Blood Test (FOBT) for your patients.
- FOBT Request forms available on your EMR or call ColonCheck at (204) 788-8635
- Test instructions available in Cantonese, Vietnamese, Mandarin, French, German, Punjabi, Nepalise, Spanish, Tagalog, and Portugese. Language interpreter services also available.
- Posters, pamphlets and other resource available at GetCheckedManitoba.ca. Order today!

Colorectal Cancer Screening Guidelines 2016

- The Canadian Task Force recommendations for average risk individuals:
- Screening is recommended for asymptomatic average risk adults aged 50-74 years using FOBT every 2 years or flexible sigmoidoscopy every 5 years.
- Screening using colonoscopy is not recommended.
- Screening adults over 75 years is not recommended.

For more information visit GetCheckedManitoba.ca or call 1-855-95 CHECK.

MORE ON PAGE 5

CancerCare Manitoba
BreastCheck

BREAST HEALTH & YOUR PATIENTS:
WHEN TO USE TARGETED BOOKING VS PROVINCIAL BREAST IMAGING CONSULTATION REQUEST FORM

The BreastCheck program is for your patient if she is over 50, is asymptomatic with no previous diagnosis of breast cancer, and does not have breast implants. Encourage her to phone 1-855-95-CHECK to book an appointment for a screening mammogram.

Targeted booking for under-screened patients

The BreastCheck Targeted Booking Form is intended for under-screened, average risk women age 52-69 that have never had a screening mammogram, or haven't returned in 30+ months. You can help your reluctant patient by discussing the importance of routine screening for breast cancer, addressing her questions and concerns, and sending in a completed Targeted Booking Form. BreastCheck will confirm her eligibility and call her to book an appointment at the screening site most convenient for her. The Targeted Booking Form can be found on your ACCURO or JONOKE EMR system. Your encouragement has a significant influence on your patient's decision to get checked for breast cancer.

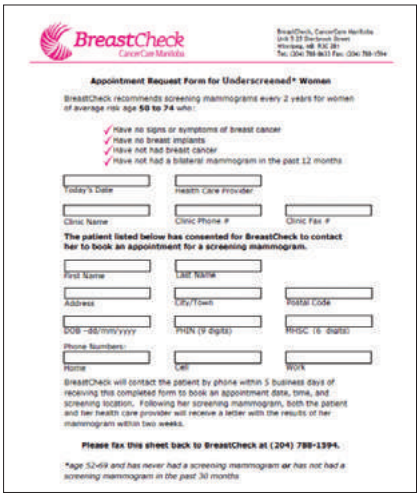
Provincial Breast Imaging Consultation Request Forms

If a patient is not eligible for BreastCheck, she will need to be referred to a diagnostic centre using the Provincial Breast Imaging Consultation Request Form. This includes women who:

- Are symptomatic
- Have had a previous breast cancer diagnosis
- Who currently have breast implants
- Who are under 50 with a family history

Exceptions

The BreastCheck mobile program provides province-wide access to screening mammography. However, accommodation can be made for women living in areas with limited access who require diagnostic mammography on the mobile clinic. Please contact BreastCheck directly to discuss your referral options.


BreastCheck

Appointment Request Form for Understreened* Women

BreastCheck recommends screening mammograms every 2 years for women of average risk age 50 to 74 who:

- Have no signs or symptoms of breast cancer
- Have no breast implants
- Have not had breast cancer
- Have not had a bilateral mammogram in the past 12 months

Today's Date | Health Care Provider

Clinic Name | Clinic Phone # | Clinic Fax #

The patient listed below has consented for BreastCheck to contact her to book an appointment for a screening mammogram.

First Name | Last Name

Address | City/Town | Postal Code

DOB –dd/mm/yyyy | PHIN (9 digits) | MHSC (6 digits)

Phone Numbers:

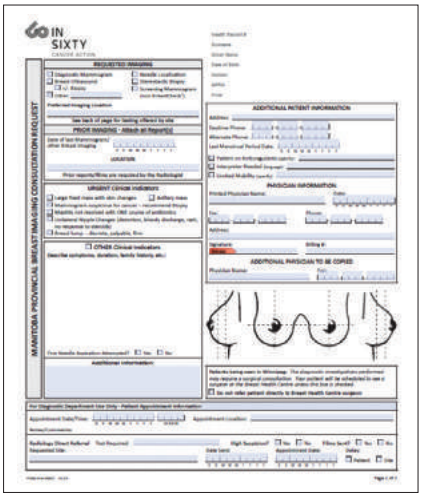
Home | Cell | Work

BreastCheck will contact the patient by phone within 5 business days of receiving this completed form to book an appointment date, time, and screening location. Following her screening mammogram, both the patient and her health care provider will receive a letter with the results of her mammogram within two weeks.

Please fax this sheet back to BreastCheck at (204) 788-1394.

*age 52-69 and has never had a screening mammogram or has not had a screening mammogram in the past 30 months

THE BREASTCHECK TARGETED BOOKING FORM


GO IN SIXTY

MANITOBA PROVINCIAL BREAST IMAGING CONSULTATION REQUEST

PROVINCIAL BREAST IMAGING CONSULTATION REQUEST FORMS

CancerCare Manitoba
CervixCheck

INDIVIDUAL QUALITY INDICATOR REPORT DISTRIBUTION

Once again, CervixCheck will be providing specimen takers with feedback on their individual cervical cancer screening activity. Reports will be distributed to all clinicians who performed a minimum of 10 Pap tests in 2014-2015, and will include measures on participation, Pap test distribution by age, screening frequency and lost to follow-up rate. Watch out for your annual Cervical Cancer Screening Individual Quality Indicator Report in the mail this January.

MORE ON PAGE 4

What's new in cancer screening?

Laura Coulter

CancerCare Manitoba Screening Programs has recently welcomed the following individuals into newly appointed positions:

Kelly Bunzeluk, Director
kbunzeluk@cancercare.mb.ca
204-788-8636

Laura Coulter, ColonCheck Program Manager
lcoulter@cancercare.mb.ca
204-788-8084

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, 08:30-16:30, 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
MACCHARLES 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

BREAST AND 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, Manitoba 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: 1-888-532-6982
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

Dr. Shrinivas Rathod We are pleased to announce that Dr. Shrinivas Rathod has joined the Department of Radiation Oncology, CancerCare Manitoba, as a Radiation Oncologist starting September 6, 2016.

Dr. Rathod received his medical degree and completed his internship at the Grant Government Medical College, Mumbai, India, in 2007. He completed his residency and obtained board certification from the Tata Memorial Center, Mumbai, India in 2011. He completed a 2-year senior residency at TMH implementing SBRT lung program in 2013. He pursued a Clinical Fellowship in the Radiation Oncology Program at the Princess Margaret Hospital, University of Toronto, Canada from July 2014 to August 2016. During his fellowship, he served as the Chief Fellow for the Radiation Oncology Program at the Princess Margaret Hospital, University of Toronto from July 2015 to June 2016.

Dr. Rathod will be joining the Gamma Knife team and the CNS disease site group. His office will be located at the MacCharles site. We look forward to his clinical and research contributions to CancerCare Manitoba and the University of Manitoba.

New Community Oncology Program Staff:

Anisa Baker Professional Development Coordinator

Jill Sutherland UPCON Professional Development Coordinator

Cody Watling Research Assistant

WE'VE MOVED!

The Community Oncology Program and UPCON have a new office location.

Please note our new contact information: CC33 - 825 Sherbrook Street, Winnipeg, MB R3A 1M5 **Phone:** 204-784-0218