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Access to the complete *Moving Forward After Cancer* curriculum is available on the University of Manitoba Continuing Professional Development website, at:

https://www.cpd-umanitoba.com/elearning/moving-forward-after-cancer/

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Introduction

Moving Forward After Cancer is a learning suite designed for family medicine and oncology postgraduate trainees. The Moving Forward After Cancer curriculum addresses a spectrum of issues faced by adults who have survived a cancer diagnosis and describes a collaborative shared-care model for the delivery of follow-up care.

Cancer survivorship is the period of well follow-up care and rehabilitation that follows cancer treatment and ends with either cancer recurrence or death from other causes.

With the number of cancer survivors growing, follow-up care is increasingly being entrusted to primary care providers, most commonly the family physician (FP), rather than the former practice of long-term follow-up in cancer centres.

To some extent, the management of cancer followup and rehabilitation is a new task for primary care providers, who are perhaps more comfortable with the management of other chronic conditions such as diabetes, cardiac and respiratory conditions.

This shift in responsibility for follow-up care requires a responsive oncology system ready to educate FPs at discharge and to assist them when questions and concerns about late complications or cancer recurrence arise. Cancer survivorship care requires a sense of collegiality and collaboration among FPs and oncology teams in order to achieve the best patient outcomes as well as empower patients and their loved ones with the knowledge and resources needed to manage their own recovery.

Moving Forward After Cancer was developed and vetted by a national team of educators, clinicians, practicing oncologists, family physicians and postgraduate trainees of both disciplines, as well as a patient advisory committee of more than two dozen cancer survivors. The Moving Forward After Cancer curriculum project received funding in the form of a grant from the Canadian Partnership Against Cancer (CPAC), led by Dr. Jonathan Sussman of CancerCare Ontario (CCO) and by Dr. Jeff Sisler of the University of Manitoba.

Target Audience

Moving Forward After Cancer is ideally suited to trainees in postgraduate programs in Canadian medical schools, including:

- Family medicine residents
- Medical oncology residents
- Radiation oncology residents

Curriculum Structure

Moving Forward After Cancer is delivered across three, integrated learning environments. An online self-study course primes trainees to participate in meaningful discussions at an instructor-led, interspecialty workshop. These are rounded-off with an opportunity to practice skills in a hands-on clinical experience that is organized locally.

- Online Course, 1 hour. The interactive, online component of this curriculum is comprised of six units, each covering from two to five cancer survivorship topics. Unit 6 addresses cancer site-specific follow-up care strategies for breast, prostate and colorectal cancers, and has been divided into three, focused tracks. Trainees are only required to complete one of these tracks; whichever compliments the case study selected for the workshop.
- Workshop, 2 1/2 hours. This facilitated, case-based learning opportunity is designed to build upon the online course by promoting discussions about collaborative care. Whenever possible, include trainees from both family medicine and oncology disciplines, but this is not required. Workshop facilitators choose one of three, cancer-specific case studies for use in the workshop: breast cancer; prostate cancer; colorectal cancer.
- Clinical Experience, 1/2-day. When feasible, facilitators should approach a local cancer outpatient clinic to provide trainees with opportunities to interact with cancer survivors. This helps to reinforce the knowledge and skills covered in the curriculum, and increase the confidence of trainees when working with cancer survivors.

Learning Objectives

Moving Forward After Cancer aims to communicate best practices for the effective follow-up care and shared management of cancer survivors as they transition from oncology back to primary care.

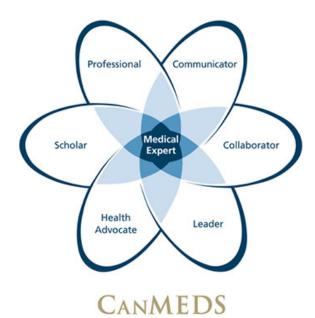
Upon completion of the *Moving Forward After Cancer* workshop, trainess should be able to complete the following tasks.

- 1. Identify and describe the common concerns of adult cancer survivors as they transition back to primary care.
- 2. Discuss the perspectives held by FPs and oncologists related to their respective roles and responsibilities in the care of cancer patients during and following treatment.
- 3. Collaborate with colleagues to develop a suitable case management approach.
- 4. List the local, provincial and national patient resources available to address a variety of issues faced by cancer surivors.

CanMEDS Roles

The CanMEDS framework is organized around seven Roles: Medical Expert (central Role), Communicator, Collaborator, Leader, Health Advocate, Scholar and Professional.

In accordance with the CanMEDS framework, the *Moving Forward After Cancer* curriculum addresses the following roles: Medical Expert; Communicator; Collaborator; Health Advocate.



Workshop Facilitator Guideline

Preparing for the Workshop

Contact Trainees

A few weeks prior to the scheduled workshop, contact trainees via email in order to share the date, time, and location of the workshop; identify the selected case study; and provide the link to the online course. Advise trainees to complete the online course prior to joining the workshop:



www.cancersurvivorshipcourse.ca

This is the online learning platform of the University of Manitoba. Participants will need to create a user account in order to access this free, online course. Workshop Facilitators should review each of the three cancer site-specific tracks that comprise Unit 6 of the online course, as well as the corresponding case studies. Select one case study for use in the workshop. Direct trainees to focus on the Unit 6 track that corresponds with the selected case study, although they are welcome to review all three.

Make Arrangements for a Hands-on Clinical Experience

A few weeks prior to the scheduled workshop, consider making arrangements for a hands-on clinical experience to follow the workshop. A hands-on clinical experience is best hosted at locations where cancer patients, especially those in the survivorship phase of cancer, receive care. Currently, the best environment for this is a cancer clinic because of the low frequency of cancer follow-up visits in primary care settings. While this may be offered as a voluntary exposure, many trainees, especially those in family medicine, will be interested in reinforcing the knowledge and skills taught in the *Moving Forward After Cancer* curriculum. On a practical note, such exposures may best be arranged by reaching out to either an oncologist or with a general practitioner/family physician in oncology (GPO/FPO) working at the cancer clinic closest to you. Share with them the focus of this curriculum, and they will likely be happy to assist.

Collect the names of trainees interested in the hands-on clinical experience either prior to or at the workshop. Administrative staff in either the postgraduate program or the cancer clinic will need to be provided with a complete list of names in order to align trainees with clinic availability. Ideally, each clinic would host one or two trainees and their named preceptors.

Although the intensity of the hands-on clinical experience will vary across patients and practice settings, even a half-day clinic will provide trainees with an excellent opportunity to reinforce their knowledge, skills and confidence in the provision of cancer follow-up care. The *Preceptor Guide for Clinical Exposure* and the *Resident Guide for Clinical Exposure*, both available for download from the course website, have been designed to help guide the clinical experience and enhance learning during patient encounters.

Procure Local/Provincial Survivorship Care Resources

Consider bringing local survivorship care resources to the workshop. Resources might include care plans; treatment summaries; links to online support tools; wellness and rehabilitation resources. Consider inviting a local psychosocial specialist to deliver a brief presentation. Visit the web site of your provincial cancer agency to identify your local options.

Print Material for Distribution at the Workshop

Plan to provide one copy of each of the following materials to trainees at the scheduled workshop.

- Student Workbook that corresponds with the selected case study
- Preceptor Guide for Clinical Exposure
- Resident Guide for Clinical Exposure
- Any local or provincial survivorship resources

Conducting the Workshop

Duration

This workshop will take about two-and-a-half hours to complete. Although the workshop is easily managed by one Workshop Facilitator, joint representation from each discipline (oncology and family medicine) is recommended.

Equipment Requirements

Equipment required for the successful delivery of all supplied Workshop Facilitator presentation tools includes: strong internet connection; computer capable of streaming audio and video; audio system/speakers; projector or large presentation monitor; applicable cables; presentation remote (optional); microphone (optional).

Format

The workshop is designed to promote collaborative, case-based discussion, focusing on one of breast, prostate, or colorectal cancer. Configure the room to allow for small-group discussion. Consider seating students in groups of five to seven per table. To foster interspecialty collaboration, ensure that any oncology trainees present are equally distributed among the family medicine trainees.

The workshop begins and ends with a brief presentation given by the Workshop Facilitator. Each case study is similarly structured, featuring three sets of questions. Between each set of questions is a brief presentation and video. Each set of questions is then addressed with three minutes of individual reflection, 10 minutes of small-group discussion, and finally 10 minutes of large-group debriefing, led by the Workshop Facilitator. All presentation tools are found in the Workshop Facilitator Toolkit on the course website.

If two Workshop Facilitators are guiding the workshop, consider dividing the tasks of presenting, keeping time and directing activity. If cancer specialists are not present in the workshop, be sure to play the short videos in which oncologists share important perspectives. These videos are embedded in the presentation slides.

Ask each group to identify a spokesperson and ensure that everyone has a chance to contribute. As observed during pilot workshops, family medicine trainees tended to defer to oncology trainees, resulting in minilectures delivered by the specialist rather than collaborative discussion. To encourage greater participation from family medicine trainees, case studies have been front-loaded with questions geared towards their expertise. Be sure to encourage equal sharing of perspectives.

Delivering the Workshop

Introduction

Distribute one Student Workbook to each participant. Deliver the first part of the presentation found in the Workshop Facilitator Toolkit on the course website. The following points are covered in the presentation.

- Welcome and participant introductions (at table group or whole group)
- Overview of the *Moving Forward After Cancer* learning suite (e.g., online, workshop, clinical experience)
- Review the learning objectives specific to the workshop component of the curriculum
- Explain the format and agenda for the workshop
- State the ground rules for small-group discussions
- Provide a brief Review of the online module

Case Study, Part 1

Read Part 1 of the selected case study aloud, giving all trainees the same opportunity to follow along. Once you have read Part 1, provide the following instructions to the group.

"Working on your own, jot down your answers to these three questions (three minutes). Next, discuss your answers in your small group (10 minutes). Finally, be prepared to share your answers and discussion with the larger group (10 minutes)."

NOTE: Responses to the questions are included following each case study. Use these to help guide the larger group discussion.

Following the group discussion, resume the presentation. Consider playing the video in which an oncologist discusses roles and responsibilities in cancer survivorship care. The following points are covered in the presentation.

- Current shift in organization of cancer follow-up from cancer system to primary care
- Challenges for FPs in providing shared cancer care
- Challenges for oncologists in providing shared care
- Most importantly, how this all impacts patients
- General discussion of the key elements of a better shared-care approach
- Identifies the importance of a written survivorship care plan

Case Study, Part 2

Read Part 2 of the case study aloud. Next, instruct the group to independently jot down answers to the next set of questions (three minutes), discuss in small groups (10 minutes), and then discuss with the larger group (10 minutes).

REMEMBER: Responses to the questions are included following each case study. Use these to help guide the larger group discussion.

Distribute any local survivorship care resources. Resume the presentation slide deck, and consider playing the next video in which an oncologist discusses his thoughts on which information should be shared with the family physician. The following points are covered in the presentation.

- Information to be included in a written survivorship care plan
- Using care plans to improve survivorship care

Case Study, Part 3

Read Part 3 of the case study aloud. Next, instruct the group to independently jot down answers to the next set of questions (three minutes), discuss in small groups (10 minutes), and then discuss with the larger group (10 minutes).

Conclusion

Conclude the presentation by recapping the workshop learning objectives; discussing arrangements for the clinical experience; and distributing any additional resources, such as the *Preceptor Guide for Clinical Exposure* and *Resident Guide for Clinical Exposure*.

If time permits, consider inviting all participants to share their own personal learning highlights from the workshop with either their small groups or the entire group as a whole.

Finally, please be sure to ask participants to complete a workshop evaluation before they leave.

Case Studies and Guided Discussion

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Breast Cancer Case: Amanda

Part 1



Present the introductory slides, and then read Part 1 of the case study. Following the group discussion, resume the presentation and consider playing the video.

Narrative

You are seeing Amanda today in clinic. Amanda is a 58-year-old patient of yours with a Stage II (T2 [3.5 cm] N1 M0) invasive ductal carcinoma of the left breast who is nearing the end of her cancer treatment. She had a lumpectomy and sentinel node biopsy by a local surgeon, followed by adjuvant (post-surgical) chemotherapy (FEC-D) which was administered intravenously once every three weeks for six treatments at your local hospital.

This regimen is common for node positive breast cancer and includes fluorouracil, epirubicin and cyclophosphamide (FEC) given intravenously every 21 days for three cycles followed by docetaxel (D) (Taxotere©) given intravenously every 21 days for three cycles.

She tolerated the chemotherapy fairly well, although she has still some numbness and tingling in her fingertips which started towards the end of the docetaxel part of her treatment. She then had radiation treatment on weekdays for five weeks (a total of 25 treatments). These treatments finished about three months ago.

Her breast cancer was Grade II, ER and PR positive, and HER2 negative. As she is post-menopausal, she started treatment last month with anastrozole (Arimidex©), an aromatase inhibitor, to prevent cancer recurrence. She was told by her medical oncologist to take 1 mg daily for five years.

A baseline bone mineral density test was ordered and was in the normal range for her age. She is now seeing the medical oncologist every three months and has no follow-up booked with the radiation oncologist.

Amanda also has hypertension. She was diagnosed in her twenties after her first pregnancy, and takes ramipril 5 mg and hydrochlorothiazide 25 mg daily. Her blood pressure today in the office is 146/94, and her recent cholesterol profile is TChol 5.5, HDL 1.3, LDL 3.6, TG 1.1. TChol/HDL is 4.2. Her HgbA1c is 5.7% and creatinine clearance is normal. She is a 15 pack year smoker, about 1/2 pack a day, and her father had a heart attack at age 64, which he survived.

Amanda raises a concern with you, her FP, during the visit today. She telephoned an on-call doctor at the cancer centre last week when she started experiencing an intense tingling sensation in her fingers. The tingling became intense after she had been working outside on a chilly evening. She got good advice, but was told she should speak with her FP about such concerns. Today Amanda asks: "I really don't know what to do. How am I supposed to know which doctor to call?"

Discussion

1. What is the differential diagnosis for the tingling discomfort in her fingers? What intervention might help her symptoms? Is this likely to improve?

Differential Dx includes: chemotherapy-induced peripheral neuropathy (CIPN); carpal tunnel; B12 deficiency; radiation-induced brachial plexopathy; thoracic outlet syndrome; hypothyroidism; Raynaud's (are there colour changes?); anxiety attack; vertebral metastases with nerve root compression; lymphedema. Diabetes is ruled out.

CIPN is the most likely, and is common after docetaxel. It usually affects the hands and feet symmetrically. It is often worsened with cold exposure. Treatment is the same as for other PNs. Meds are usually not needed, and she should keep her hands covered in the cold. Pharmacotherapy would include tricyclics, SNRIs or gabapentin/pregabalin as first choices if medications are needed.

These symptoms improve steadily and resolve in the first year for most patients, but may persist in some.

2. What would be your goals in blood pressure and lipid management for Amanda? Is this affected by her history of cancer treatment?

Her Framingham 10 year risk is about 21-22% depending on the calculator. This may be on the low side, as we don't have a pre-treatment BP reading and her father's MI at age 64 normally is not included as an extra risk as he was older than 55 years. Amanda is likely in the high risk group.

BP should be treated to 140/90. She may need an increase in her ramipril if she is taking her meds regularly.*

Her cholesterol target by the 2012 CCS Guidelines for high risk patients would be LDL 2.0. The newer Simplified Lipid Guidelines would recommend discussing a high potency statin, which could be started without further monitoring for cholesterol levels or CK/AST changes, with consideration as well of low dose ASA.**

Anthracyclines and left sided radiation may impart a slightly increased risk of cardiac risk, particularly CHF or pericardial disease, although "conformal" radiation techniques and decreased total doses of anthracyclines have reduced this risk. Aromatase inhibitors are associated with worsening of cholesterol profiles. However, none of these factors are present in the commonly-used guidelines or calculators for ischemic endpoints and likely impart a small additional risk if any.

*Daskalopoulou, D. et al. (2015). The 2015 Canadian Hypertension Education Program Recommendations for Blood Pressure Measurement, Diagnosis, Assessment of Risk, Prevention, and Treatment of Hypertension. Canadian Journal of Cardiology. 31. pp.549-568.

^{**}Allan, G.M. (2015). Simplified Lipid Guideline. Canadian Family Physician. 61.

3. Amanda is three months out from radiation. Make a list of the patient concerns that, in your opinion, should be addressed with her FP, and those that should be addressed with her cancer specialist at this point. How can you help Amanda identify which doctor to call, or does it matter?

There is no "right" answer here. It would be reasonable to consult the primary care clinic first, perform triage, and involve the oncologist as needed. However, the patient may be comfortable calling the cancer clinic at the three-month mark, where telephone support in particular is often enhanced compared with primary care settings.

For patients still on treatment or very close to the end of treatment, approaching the cancer centre first is sensible. Rural FPs are more likely to need to be available, particularly if the patient is going back and forth to a distant urban centre for treatment.

The key point is that the physician should explicitly raise the "who does what" issue with the patient, identify how you see the division of labour, how you're willing to help, and then communicate that to the other doctor. It would be helpful for the FP to offer first contact for everything if the patient is not sure or not getting an answer.

Part 2



Present the next set of slides, and then read Part 2 of the case study. Following the group discussion, resume the presentation and consider playing the video.

Narrative

It has now been nine months since the completion of her radiation treatment, and Amanda is doing well. Amanda's medical oncologist has indicated her readiness to transfer responsibility for Amanda's care back to her FP. Amanda is willing to accept this, but is feeling nervous with the thought of losing regular touch with her cancer specialist, and is concerned about cancer recurrence. She doesn't want anything missed.

Discussion

4. When and where does breast cancer most commonly recur?

Most recurrences are local recurrences, potentially curable with mastectomy. Recurrence in the ipsilateral breast is expected to occur in ~1% of women annually. New cancer in the contralateral breast is expected to occur in 15% of women within 20 years.

Distant metastases are less common, but occur mainly in bone, liver, lungs and brain. Most recurrences occur in the first 5 years of follow-up, but there is a persistent, although declining risk of recurrence for the patient's lifetime.

5. What follow-up testing is recommended after breast cancer treatment? What is not recommended?

Regular breast self-examination is also recommended for this particular patient group. No randomized trials as yet, but a higher recurrence rate is felt to justify this recommendation. DEXA bone density scan prior to introduction of aromatase inhibitor, and then about every two years, especially if abnormal at baseline. Consider screening for anxiety/depression and fatigue given the prevalence in this high risk group.

Period	Visit with Clinical Breast Exam	Mammogram
First 3 Years	Every 3-6 months	Annually
Years 4 & 5	Every 6-12 months	from date of first mammogram, but must be at least 6 months after radiation
>5 Years	Annually	

Testing <u>not recommended</u> for routine breast cancer surveillance among survivors:

- CBC testing
- Automated chemistry studies
- Chest x-rays
- Bone scans

- Ultrasound of the liver
- CT scanning
- FDG-PET scanning
- Breast MRI
- Use of CA 15-3 or CA 27.29
- CEA testing
- 6. Generate a list of the information you think the oncologist should provide the FP at the time of this care transition. Should the patient get the same information?

Cancer information: stage (explained); presence of mets or not

Treatment information: type of treatment received; complications experienced

Surveillance needs: schedule for visits and tests; long-term treatment-dependent side effects (late effects; e.g., cardiotoxicity, leukemia, lymphoma, nephrotoxicity); screening for second primaries (FOBT, paps, colonoscopy not required but is an option); instruction regarding side effects of Als or tamoxifen and any special monitoring; symptoms that may herald recurrence

Screening: if needed, offer screening for family members, make genetics referrals

Community resources: recommend recovery/rehabilitation resources available in the community

Collaboration: FP and cancer specialist should exchange contact information instructions, and share information about prognosis, recurrence risk, likely sites of recurrence, and what the patient has been told. Patient should get the same information, to enable them to self-manage and also help to keep their doctors on track if they are able to play this role. Language needs to be accessible though, and some patients may want to decline getting this information, which should be respected.

Part 3



Present the next set of slides, and then read Part 3 of the case study. Following the group discussion, resume the presentation and consider playing the video.

Narrative

Amanda is now back seeing her FP in follow-up. During a visit today, she has a question: "I'm taking these anastrozole pills daily, but what else can I do to prevent the cancer from coming back?

Discussion

7. How would you describe the effectiveness of anastrozole for post-menopausal women in terms of preventing breast cancer recurrence? How would this pharmacotherapy differ if she was pre-menopausal?

Als improve disease free survival (DFS) from breast cancer by about 30-40% compared to placebo, and are slightly more effective than tamoxifen. They are commonly offered first to post-menopausal women.

If Amanda was pre-menopausal, she would have to take tamoxifen to block the ER receptors, as inhibiting aromatase in peripheral tissues, when the hypothalamus-pituitary-adrenal axis is still functioning, just services to ramp up estrogen production in the ovaries. This is all for Estrogen Receptor Positive tumours only.

Consider using the PREDICT model from the UK to illustrate the benefits of post-surgical (adjuvant) treatment (visit predict.nhs.uk); see next page for a screenshot of this calculation. Using the PREDICT model, Amanda's five-year overall survival, assuming a 35 mm (T2) tumour, Grade 2, one node positive:

- 88 in 100 women are alive at 5 years with no adjuvant therapy after surgery
- An extra 3 in 100 women treated are alive with hormone therapy only
- An extra 6 in 100 women treated are alive with both hormone therapy & chemotherapy

PREDICT Tool: Breast Cancer Survival; Results

Five year survival

88 out of 100 women are alive at 5 years with no adjuvant therapy after surgery

An extra 3 out of 100 women treated are alive because of hormone therapy

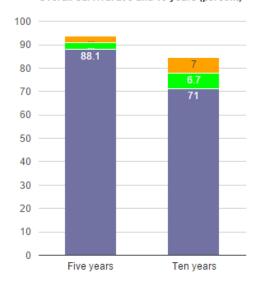
An extra 6 out of 100 women treated are alive because of hormone therapy & chemotherapy

Ten year survival

71 out of 100 women are alive at 10 years with no adjuvant therapy after surgery An extra 7 out of 100 women treated are alive because of hormone therapy An extra 14 out of 100 women treated are alive because of hormone therapy & chemotherapy

To view the numbers in bars hover pointer over each bar-segment (Or tap segment if using a mobile device)

Overall Survival at 5 and 10 years (percent)



- Survival with no Adjuvant treatment
- Benefit of Adjuvant Hormone therapy
- Additional benefit of Adjuvant Chemotherapy
- Additional benefit of Trastuzumab

Disclaimer: **PREDICT** can only provide a general guide to possible outcomes in any individual case. As we are all different, for the more complete picture in your case, you should speak to your own specialist. You may wish to print this page out and share it with your specialist.

8. What lifestyle changes would you suggest to Amanda?

First, encourage her to stop smoking. Nicotine replacement therapy and referral to smoking cessation resources should be made.

Encourage her to achieve and maintain a healthy body weight, ideally a BMI 27 or less. To accomplish this, recommend 150 minutes of moderate to vigorous activity per week plus at least two resistance training sessions. Further, advise her to limit alcohol to one drink a day and make healthy food choices.

Although these may not reduce recurence, encourage the use of social supports, participation in yoga or mindful relaxation.

9. Which resources in your community can help cancer survivors make these lifestyle changes?

You may want to invite a local counsellor/navigator/social worker to make a brief presentation about local cancer resources for survivors at this point.

Consider psychosocial counselors and psychologists, peer support groups, dieticians, activity/ exercise programs and specialists, cancer navigators, chronic care nurses, lymphedema massage therapy, special programs like those for brain fog, fatigue, etc.

Smoking cessation resources should also be provided.

Conclusion



Present the summary and closing slides.

Prostate Cancer Case: Chuck

Part 1



Present the introductory slides, and then read Part 1 of the case study. Following the group discussion, resume the presentation and consider playing the video.

Narrative

You are seeing Chuck today in clinic. Chuck is a 78-year-old married man who was diagnosed with Stage IIB prostate cancer last year when his PSA was found to be 6.2 ng/L. His Stage IIB cancer was T2c N0 M0, which means: confined to the gland but bilateral, with no nodal involvement. His prostate biopsy came back showing Gleason score 8 (4+4) or "high grade" adenocarcinoma.

Given his age and co-morbidities, he was treated at the cancer centre with radical radiation to his pelvis and a "boost" of radiation to the prostate. He also received LHRH agonist therapy ("hormonal" or androgen deprivation therapy) as neoadjuvant (preceding radiation), concurrent (with radiation) and adjuvant (post-radiation), with a plan to receive this therapy for a total of three years after radiation.

Chuck finished his radiation treatment six months ago. His PSA had decreased to 2.0 ng/L when it was checked at the cancer centre recently.

Chuck's other medical problems include longstanding hypertension, type II diabetes and being a smoker. Chuck smokes 1 pack of cigarettes per day with a 50 pack year history of smoking. His family history is negative for cancer and cardiac disease.

Chuck's most recent BP is 144/88 and his most recent HgbA1c is 8.8%, on metformin 500 mg bid and enalapril 10 mg od. His recent cholesterol profile is TChol 6.6, HDL 1.1, LDL 4.6, TG 1.8. TChol/HDL is 6.0.

Chuck has done fairly well after the radiation treatments. However, he has noticed problems with increasing urinary frequency, urgency and nocturia over the past three months.

Chuck raises a concern with you, his FP, during the visit today. He telephoned the on-call radiation oncologist last week when his urinary frequency was particularly bothersome. He got good advice, but was told he should speak with his FP about such concerns. Today Chuck asks: "I really don't know what to do. How am I supposed to know which doctor to call?"

Discussion

1. What are the possible causes for his urinary tract symptoms? What can be done to manage his symptoms? Are they likely to worsen, remain the same, or improve?

His symptoms are mainly irritative, likely from radiation, and could represent mild or severe radiation cystitis, prostatitis and/or bladder neck swelling. However, it is important to rule out infectious causes.

The recommended treatment includes anticholinergic drugs for bladder spasm (best choice), or Alpha 1 blockers may also be of benefit.

These symptoms are likely to worsen for up to one year following radiation therapy before stabilizing. One study that examined the natural history of side effects, looking at 2.5 years and then 6 years out from external beam radiation therapy, showed stable rates of urinary leaking (5%), bowel urgency (14%) and urinary irritation (3%).

2. What would be your goals in blood pressure, diabetes and lipid management for Chuck?

Chuck's Framingham 10 year risk is >50%, but his age is 78 and his life expectancy is limited by cancer as well (although his PSA was <10 at diagnosis, with a low recurrence rate of 20% or less).

His BP should be treated to 130/80 as he is diabetic, but proceed with caution due to age. He likely does need a second antihypertensive.

His cholesterol target is LDL 2.0 or a 50% reduction (to 2.3 for Chuck) with statin initiation. The new Simplified Lipid Guidelines would support simply prescribing a high potency statin and not focusing on LDL targets. However, Chuck's age of 78 and the fact that this is still primary prevention in terms of ischemic heart disease would also justify more of a "hands off" approach.

For DM control, the usual HgbA1c goal is < 7%, but would likely consider more relaxed target of <8.5% given his age and comorbidities.

3. Chuck is six months from radiation. Make a list of the patient concerns that, in your opinion, should be addressed with his FP, and those that should be addressed with his cancer specialist at this point. How can you help Chuck identify which doctor to call, or does it matter?

There is no "right" answer here. It would be reasonable to consult the primary care clinic first, perform triage, and involve the oncologist as needed. However, the patient may be comfortable calling the cancer clinic at the six month mark, where telephone support in particular is often enhanced compared with primary care settings. He is still on ADT therapy, which the oncologist is likely supervising.

For patients still on treatment or very close to the end of treatment, approaching the cancer centre first is sensible. Rural FPs are more likely to need to be available, particularly if the patient is going back and forth to a distant urban centre for treatment.

The key point is that the physician should explicitly raise the "who does what" issue with the patient, identify how you see the division of labour, how you're willing to help, and then communicate that to the other doctor. It would be helpful for the FP to offer first contact for everything if the patient is not sure or not getting an answer.

Part 2



Present the next set of slides, and then read Part 2 of the case study. Following the group discussion, resume the presentation and consider playing the video.

Narrative

You are seeing Chuck today in clinic. Chuck is a 78-year-old married man who was diagnosed with Stage IIB. It has now been 12 months since the completion of his radiation treatment, and Chuck's radiation oncologist has indicated her readiness to transfer responsibility for Chuck's care back to his family physician for ongoing management and follow-up. Chuck is happy to continue his prostate cancer care closer to home, since he lives almost two hours away from the cancer centre. However, he is feeling nervous about losing regular touch with his cancer specialist, and is concerned about his cancer monitoring being done right. Chuck has been busy with cancer treatment and hasn't seen his FP for several months.

Discussion

4. How often would you see this patient in follow-up, and how frequently would you monitor his PSA? After radiation treatment, what change in PSA should warrant concern on your part that a change in therapy may be needed?

See the patient and do a PSA test every six to 12 months for five years. In some high-risk situations, PSA may be done every three months. Annual DRE is suggested. His 10-year disease-free survival is ~50%. The PSA nadir or bottom point takes a while to achieve, as long as 12-24 months after treatment with external beam radiation. After this treatment modality, if the PSA rises more than 2.0 ng/ml above the nadir, this is considered a PSA recurrence and needs to be referred back for a closer observation and possibly a metastatic workup.

You may refer participants to the RTOG-ASTRO Phoenix Consensus-1 guideline online: http://www.redjournal.org/article/S0360-3016(06)00663-8/abstract

If there is local recurrence only, salvage treatment with prostatectomy is considered. Brachytherapy, cryotherapy and active surveillance are also possible choices. If distant metastases are found, androgen deprivation therapy (ADT) is the standard treatment.

5. Chuck is wondering if his 52-year-old son should be checked for prostate cancer. Chuck was 78 at diagnosis and his family comes from Eastern Europe. There is no other prostate or breast cancer in the family. How would you respond to his concerns about screening his relatives for cancer?

A careful, two-generation family history is needed. Provide population-risk screening advice to Chuck's son (no screening), as Chuck is older.

If Chuck or his son are of Ashkenazi Jewish heritage and if FHx is positive, consider BRCA testing, but this would likely first be performed on an affected female in the family. If Chuck or his son are of African ancestry, screening his son may be more tempting.

In terms of genetic risk factors for prostate cancer, men with one first-degree relative who is positive for prostate cancer are two times more likely to develop the disease. This risk increases further if more than one family member has/had prostate cancer. An increased risk is also conferred with BRCA mutations and in Lynch Syndrome.

Other risk factors include a diet that is high in animal fat and low in vegetables, alcohol use, smoking and obesity.

6. Generate a list of the information you think the oncologist should provide the FP at the time of this care transition. Should the patient get the same information?

Cancer information: stage (explained); presence of mets or not

Treatment information: type of treatment received; complications experienced

Surveillance needs: schedule for visits and tests; long-term treatment-dependent side effects (late effects); screening for second primaries (FOBT, paps, colonoscopy not required but is an option); instruction regarding side effects of Als or tamoxifen and any special monitoring; symptoms that may herald recurrence

Screening: if needed, offer screening for family members; make genetics referrals

Community resources: recommend recovery/rehabilitation resources available in the community

Collaboration: FP and cancer specialist should exchange contact information instructions, and share information about prognosis, recurrence risk, likely sites of recurrence, and what the patient has been told. Patient should get the same information, to enable them to self-manage and also help to keep their doctors on track if they are able to play this role. Language needs to be accessible though, and some patients may want to decline getting this information, which should be respected.

Part 3



Present the next set of slides, and then read Part 3 of the case study. Following the group discussion, resume the presentation and consider playing the video.

Narrative

Chuck is now back seeing his family physician in follow-up. During a visit today, his wife has a question. She had read in the educational materials provided by the cancer centre that his general health and pre-existing medical issues may need to be monitored more closely, especially since he will be on hormonal therapy with LHRH agonists (androgen deprivation therapy) in the form of subcutaneous injections for an extended period.

Discussion

7. What are the most important **immediate** and **long-term** side effects of receiving androgen deprivation therapy? What are the recommended surveillance and intervention strategies?

Immediate: hot flashes; loss of libido; fatigue

Long-term: weight gain; osteoporosis; depression; anemia; muscle atrophy; cardiovascular disease; decreased HDL; cognitive changes; increased insulin resistance

Surveillance: three monthly visits to monitor his Hgb, glucose, drug side effects and his comorbidities; needs a baseline DEXA given plan for three years of ADT

Intervention: SNRI could be considered for hot flashes/depression; physical activity, resistance training and yoga are effective for fatigue, mood changes, muscle weakness; start a bisphosphonate if osteoporotic; you could also discuss with Chuck starting a high-potency statin combined with a low dose ASA

8. Given that the patient lives quite far away from the large urban cancer centre, would you feel comfortable administering the LHRH agonist SQ injections in your office? Why or why not? What other options exist in this situation?

The drug may only be provided free if administered through the cancer agency's drug funding system, so would check their requirements given the cost of these medications. Could give in the FP office if drug could be provided, and FP taught how to administer it by video etc. Could check re a visiting nurse doing it too. Another option is in a local hospital, especially is there is an outpatient cancer treatment centre there. In some provinces this would facilitate drug funding.

9. How would you address smoking cessation with Chuck? He has expressed that he has lived a good life and doesn't seem very interested in discussing quitting.

ASK first if he's interested in discussing quitting, and if so, ADVISE him of its benefits and ASSESS his readiness for change. Since recurrence rate is 20% or so due to the low PSA at the time of diagnosis and the relatively low stage of his disease, would emphasize to him that his CV health is his biggest health issue, and that stopping smoking would be the quickest and most impactful way to affect this. If adamant, would focus elsewhere, such as physical activity and med adjustment.

Conclusion



Present the summary and closing slides.

Colorectal Cancer Case: Gestur

Part 1



Present the introductory slides, and then read Part 1 of the case study. Following the group discussion, resume the presentation and consider playing the video.

Narrative

Gestur is a 63-year-old fisherman who comes to see you today in follow-up of his stage III (Clinical Stage T2N1) rectal cancer. His treatment ended three months ago. He had initial (neoadjuvant) chemo-radiotherapy on account of an MRI suspicious for involved regional lymph nodes. He subsequently underwent total mesorectal excision and abdomino-perineal resection, with establishment of a permanent colostomy. Pathologic examination of the surgical specimen did not find any involved lymph nodes. For his (clinical) stage III disease, Gestur was offered and received chemotherapy after his surgery: six cycles of FOLFOX (5-FU, oxaliplatin).

Gestur tolerated his treatments well. However, he developed a mild peripheral neuropathy which started after his third cycle of chemotherapy. He also developed erectile dysfunction which started after his radiation and became noticeably worse in the postoperative period. When he saw you last, Gestur reported some worsening of his erectile dysfunction, for which you prescribed sildenafil.

Aside from his work as a commercial fisherman, Gestur takes no regular exercise. He quit smoking at the time of his cancer diagnosis. He has no known coronary artery disease. He averages two alcoholic beverages per day.

Gestur takes metformin 500 mg ii tablets BID plus gliclazide MR 30 daily for his diabetes. His A1c is 8.8%. His total cholesterol is 3.8 mmol/L, HDL 1.3, LDL 2.2, and triglycerides 3.14 mmol/L. His other medications include irbesartan 75mg daily, atorvastatin 10 mg daily, and ECASA 81 mg.

On examination Gestur is overweight, with a BMI of 29. His blood pressure is 118/76, right arm sitting. He has patchy impairment of sensibility to monofilament testing of both feet, with normal sensation proximal to the ankles. Gestur has no foot ulcers or calluses.

When you ask Gestur if the sildenafil has worked, he initially falls silent, flushing with evident embarrassment, and then he chokes up a bit. He reports that when he and his wife have tried to make love, the ostomy and appliance have proven too off-putting for his wife, although she seems to be trying in earnest to accept the changes to his body. He admits to a depressed mood, but denies suicidal ideation or intent.

Discussion

1. What are the possible/probable contributors to Gestur's reported sexual dysfunction?

Vasculopathy: diabetes; cigarette smoking; other vascular risk factors (hypertension, dyslipidemia – well controlled at this time)

Medications: likely not a major contributor

Neuropathies: pelvic neuropathy following radiotherapy (a major contributor); diabetic (a possible factor); oxaliplatin neuropathy (likely less significant than diabetes and radiotherapy)

Psychosocial: the 'yuk' factor of the ostomy and appliance; possible 'performance anxiety'; stress/ anxiety (e.g. about his risk for cancer recurrence); possible depression

Surgery: a major contributor; most men experience some degree of erectile dysfunction and reduction of libido following surgery for rectal cancer

2. How can you help Gestur and his wife to address this problem?

Elucidate whether or not Gestur has a major affective disorder, and whether he would benefit from pharmacologic antidepressant treatment.

You were correct to have offered Gestur a trial of sildenafil; phosphodiesterase-5 inhibitors are first-line treatments for erectile dysfunction. Intrameatal alprostadil or intracavernous pharmacologic therapy can also be effective treatments for erectile dysfunction.

Consider checking a testosterone level, including free testosterone. A trial of testosterone replacement therapy could be discussed with Gestur as part of a more comprehensive, whole-person approach to the physiologic and relational factors impinging on Gestur's situation. Testosterone replacement might carry a modest benefit both in increasing sexual desire and perhaps erectile function in men with low levels of serum testosterone.

Optimizing control of Gestur's cardiovascular risk factors will help to minimize progression of vascular damage and potentially even partially reverse endothelial dysfunction, especially that related to diabetes and smoking.

Even more important to the whole-person care of Gestur are the relational aspects of the sexual concerns with which Gestur presents. Embarrassment and shame related to altered body image and sexual potency need to be addressed in a sensitive manner. Provincial cancer agencies typically have psychosocial oncology services that offer counseling free of charge to current and former patients of the cancer agency. If your provincial agency has a sexuality counselor a referral to such a resource could be offered at this time. Whether the counseling takes place through the provincial cancer agency, a private practice psychologist or sexual therapist, or in the family physician's office, both Gestur and his wife should be party to the discussion.

3. Make a list of the kinds of patient concerns that, in your opinion, should be addressed to his FP, and those that should be addressed to the cancer specialist at this point, three months out from chemotherapy. How can we make it clearer for Gestur "which doctor to call," or does it matter?

There is no "right answer" here. It would be reasonable to consult the primary care clinic first for almost any problem, have the FP perform triage, and then involve the oncologist as needed. Gestur might also be comfortable calling the cancer clinic, where telephone support in particular is often enhanced compared with primary care settings.

For patients still on treatment or very close to the end of treatment, approaching the cancer centre first is sensible. Rural FPs are more likely to need to be available, particularly if the patient is regularly travelling to a distant urban centre for treatment.

The main point is that physicians must explicitly raise the "who does what" issue with the patient, lay out how you see the division of labour, how you're willing to help, and communicate that to the other doctor. It would be helpful for the FP to offer first contact for everything if the patient is not sure or not getting an answer. This may depend most on availability, convenience and patient preference.

Part 2



Present the next set of slides, and then read Part 2 of the case study. Following the group discussion, resume the presentation and consider playing the video.

Narrative

Six months have passed since Gestur's post-op chemotherapy ended. Last month, you received a letter from the medical oncologist transferring medical responsibility for follow-up care to you, his family doctor, for ongoing follow-up care.

The documents sent to you indicate that he is due for a CEA level, the second such blood test since his treatment ended, and you give him a requisition today. The document also recommends obtaining an infused CT chest, abdomen and pelvis, to be done prior to the time of the follow-up visit that takes place at the one-year mark after surgery (which will be three months from now). You order these today as well. Gestur tells you his surgeon has also called him in for a surveillance colonoscopy, to be performed in a few months.

Gestur tells you that the sildenafil has made a significant difference to the quality of his erections. He and his wife have been seeing the sexuality counselor at the local cancer clinic. Weighing more heavily on Gestur's mind today are all the upcoming tests. He admits that he has been wondering if his cancer is going to come back at some point.

Discussion

4. What are the current CancerCare Ontario/American Society of Clinical Oncology recommendations for follow-up of colorectal cancer once a patient has received treatment with curative intent?

Surveillance should be guided by presumed risk of recurrence and functional status of the patient.

Test	Frequency	
History, physical, CEA testing	Every 3-6 months for 5 years.	
Colonoscopy	Either 1 year after resection or 3-6 months after surgery, if no pre-op colonoscopy occurred. Repeat every 5 years if no polyps are found.	
CT scan chest, abdomen	Annually for 3 years.	
Rectal cancer cases only		
CT scan pelvis	Annually for 3 years.	
Sigmoidoscopy	Consider at intervals <5 years if there is a high risk for local recurrence.	

Surveillance colonoscopy should be performed one year after surgery for colorectal cancer. If those results are reassuring, plan to repeat 3-5 years later. Although the surgeon will most likely take responsibility for calling the patient in for surveillance colonoscopy, the FP should clarify this in discussion with the patient and, if necessary, initiate re-referral to the surgeon. If Gestur had not had pelvic radiotherapy, CCO guidelines also would recommend periodic rectosigmoidoscopy be included.

Fecal occult blood testing, liver function tests, complete blood count, chest x-ray, and PET scanning should not be part of routine surveillance for colorectal cancer.

It is worth noting that this intensive follow-up regimen is associated with about a 10% absolute decrease in overall mortality at five years, one of the only kinds of cancer where close follow-up testing has been associated with such a strong benefit. However, such follow-up is intended only for patients healthy enough to tolerate further surgical treatment of new metastatic disease of the lung or liver, or new primary GI tumours.

The Follow-up Care, Surveillance Protocol, and Secondary Prevention Measures for Survivors of Colorectal Cancer published by CancerCare Ontario can be accessed at https://www.cancercare.common/pages/UserFile.aspx?fileId=124837

5. How can you respond to Gestur's concern that his cancer might come back? What can Gestur do to reduce his risk of cancer recurrence?

You can reassure Gestur that the most common concern shared among cancer patients is the fear of cancer recurrence. There is reason for optimism in his case. Data from the SEER (Surveillance, Epidemiology, and End Results) database in the USA show a five-year survival rate of 73.1 % for Stage IIIA (T2N1) colon cancers. However, the studies upon which oncologists rely for the purpose of recurrence risk estimation do not clarify the risks for rectal (vs. colon) cancer. A patient's risk for recurrence of a rectal cancer is extrapolated from the colorectal combined trials.

Using this online risk assessment tool, the probability of a 63-year-old white male with a BMI of 29 being recurrence-free at three years from initiation of adjuvant chemotherapy is estimated at about 90%, depending on a variety of factors: http://www.mayoclinic.org/medical-professionals/cancer-prediction-tools/colon-cancer

Obesity, dietary factors, and a sedentary lifestyle are all believed to affect cancer risk generally and the risk of colorectal cancer in particular. Limiting saturated fats, avoiding cooking meats at very high heat, and minimizing the intake of highly processed foods and cured meats can all be recommended to Gestur. Encourage the inclusion of a wide variety of vegetables and fresh fruits in the diet. Whole grains should be preferred over the use of refined flour.

Although there is no direct evidence in the literature to speak to the effect of weight reduction on the risk of rectal cancer recurrence, there is evidence that regular physical activity may reduce the risk of colorectal cancer-specific and overall mortality. Recommend a minimum of 150 minutes of moderate-to-vigorous exertion per week, including both aerobic and resistance training.

Continuing as a non-smoker and the moderation of alcohol consumption should be prescribed and facilitated. CancerCare Ontario's guideline document for colorectal cancer says there are insufficient data to make a firm recommendation regarding the role of acetylsalicylic acid (ASA) in the secondary prevention of CRC.

6. Generate a list of the kinds of information that you think needs to be provided by the oncologist to the family physician at the time of transfer of care of a cancer patient. Should the patient get the same information?

Cancer information: stage (degree of spread, explained); presence of mets or not

Treatment information: type of treatment received; complications experienced

Surveillance needs: schedule for visits and tests; long-term treatment-dependent side effects (late effects); new cancers in the field of radiation (skin, prostate); symptoms that may herald recurrence

Screening: if needed, offer screening for family members; make genetics referrals

Community resources: recommend recovery/rehabilitation resources available in the community

Collaboration: FP and cancer specialist should exchange contact information instructions, and share information about prognosis, recurrence risk, likely sites of recurrence, and what the patient has been told. Patient should get the same information, to enable them to self-manage and also help to keep their doctors on track if they are able to play this role. Language needs to be accessible though, and some patients may want to decline getting this information, which should be respected.

Part 3



Present the next set of slides, and then read Part 3 of the case study. Please read aloud the narrative updates inserted before question 8, question 9, and the conclusion, giving students time to respond. Following the group discussion, resume the presentation and consider playing the video.

Narrative

Gestur's CEA level comes back a few days later, elevated at 10.6 ng/L. You check the transition documents from the medical oncologist, and note that his last CEA three months ago was normal at 4.8 ng/L.

Discussion

7. What are the possible explanations for Gestur's elevated CEA?

Some fluctuation of CEA across time and between different laboratories is expected, but a rise of this magnitude needs an explanation. Gestur could have a recurrence of his rectal cancer, or this CEA elevation might be explicable on the basis of Gestur's return to tobacco use.

Narrative UPDATE

On further questioning, Gestur admits that he started smoking about three weeks ago, and is now smoking more than a pack a day, which is more than he used to smoke prior to diagnosis.

8. What will you recommend to Gestur regarding this elevated CEA? How might the family physician collaborate with the surgical and medical oncologist in developing a plan?

Notify the surgeon (who will see Gestur soon for a surveillance colonoscopy) that the CEA is elevated harrolding a concern about possible cancer recurrence or even a new colorectal primary. Likewise, the medical oncologist should be notified and their advice sought in how best to follow-up on the elevated CEA.

Consider checking LFTs +/- moving up the CT chest/abdomen/pelvis, in collaborative discussion with the specialists.

Narrative UPDATE

The medical oncologist suggests that the surveillance CT scan, which you have booked for the one-year postsurgery visit, be bumped up to later this month, and that you try to help Gestur quit smoking again. A repeat CEA is also suggested in one month. 9. How would you address smoking cessation? Gestur feels overwhelmed and doesn't seem optimistic about quitting.

First, ASK if he's interested in discussing quitting. If so, ADVISE him of its benefits and ASSESS his readiness for change. Nicotine replacement therapy should be offered, referral to a smokers' helpline or other resource, and close office follow-up.

The combination of several modalities (e.g., varenicline plus nicotine replacement plus counseling) works better than any single therapy. If varenicline is used, the dosing on days 1-3 is 0.5 mg once daily, 0.5 mg twice daily on days 4-7, and the maintenance dose 0.5 to 1 mg twice daily for 11 weeks. The patient should start the varenicline at least one week in advance of the attempt to taper/discontinue tobacco use.

Although not an absolute contraindication to the use of varenicline, Gestur's recently depressed mood warrants vigilance for worsening depressive symptoms if varenicline is used. Bupropion has antidepressant effects that might make this option preferable over varenicline, but vigilance for mood symptoms is also warranted even with bupropion.

Smokers usually make more than one attempt at quitting. Encourage Gestur in advance of his initial attempt at smoking cessation that, should his first attempt fail, his prospects for success increase if he perseveres with subsequent attempts.

Narrative UPDATE

Gestur is encouraged by your offer to prescribe a nicotine replacement system, and closely monitor his efforts to kick the habit.

Six weeks later, Gestur remains abstinent from tobacco use. He is back to see you for the results of his CT, and a repeat of the CEA test he had last week. The CEA has come down to 4.5 ng/L, and his CT shows no evidence of recurrence. Gestur is visibly relieved at this news, and thanks you for seeing him through his recent challenges.

Conclusion



Present the summary and closing slides.