The following colorectal cancer research updates extend from February 15th, 2018 to March 15th, 2018 inclusive and are intended for informational purposes only.

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**DRUGS / SYSTEMIC THERAPIES**

1. Survival impact of CAPOX vs. FOLFOX in the adjuvant treatment of stage III colon cancer (Feb 15/18)

CAPOX (oxaliplatin + capecitabine) and FOLFOX (leucovorin + fluorouracil + oxaliplatin) are both used in the adjuvant treatment of colon cancer though their efficacy has not been directly compared. A recent study aimed to review the toxicity, relative dose intensity (RDI) and survival rates that are associated with these chemotherapy treatments. 394 patients with stage III colon cancer were assigned either FOLFOX or CAPOX. CAPOX was associated with increased mucositis, an inflammation of the intestinal lining, (6.2% vs. 0.7%), and neutropenia, the presence of abnormally neutrophils in the blood (25.9% vs. 8.6%). CAPOX was associated with increased dose limiting toxicities (90.7% vs. 80.2%), diarrhea (31.8% vs. 9.0%) and hand-foot syndrome (19.9% vs. 2.1%). RDI was defined as the total dose received divided by the intended total dose if all cycles of chemotherapy were completed. Higher median RDI of fluorouracil (93.7% vs. 80.0%) and oxaliplatin (87.2% vs. 76.3%) was observed for patients who received FOLFOX. Reducing the duration of treatment from 6 months to 3 months would have prevented 28.7% of FOLFOX and 20.5% of CAPOX patients from ever experiencing a dose limiting toxicity. Overall survival did not differ by regimen, though CAPOX was linked to an improved disease-free survival (83.8% vs. 73.4%), which was significant in high risk but not low risk patients. In conclusion, CAPOX may be linked to improved disease-free survival despite greater toxicity and lower RDI. Reducing adjuvant chemotherapy duration to 3 months would prevent about 20% of patients from ever experiencing a dose-limiting toxicity.

2. FOLFIRI plus cetuximab active, feasible for metastatic colorectal cancer (Feb 22/18)

According to an Italian study, a 4-month course of induction therapy with modified FOLFOXIRI and cetuximab produced significant activity and appeared appropriate for patients with RAS and BRAF wild-type metastatic colorectal cancer (mCRC). Among patients with mCRC, FOLFOXIRI (fluorouracil, oxaliplatin and irinotecan hydrochloride) plus bevacizumab is seen by major guidelines as a safe and effective first-line treatment option. Preclinical data has shown that when patients undergo treatment with epidermal growth factor receptor (EGFR) inhibitors such as cetuximab, it can lead to the activation of pro-angiogenic pathways that stimulate the growth and proliferation of tumour blood vessels. Based on this finding, tumours treated first with anti-EGFR agents may become more sensitive to anti-angiogenic agents such as bevacizumab.

The phase II MACBETH trial included patients with untreated RAS and BRAF wild-type mCRC and examined the effectiveness of modified FOLFOXIRI and cetuximab. Patients were recruited from 21 oncology units throughout Italy. Patients were randomly assigned to receive an induction regimen of modified FOLFOXIRI and cetuximab every 2 weeks for up to eight cycles, followed by either cetuximab or bevacizumab. A total of 116 patients had RAS and BRAF wild-type disease. The median age was 59.5 years, and 34 (29.3%) were women. The median overall progression-free survival (6 months) was 10 months. The most common grade 3 or grade 4 adverse event included neutropenia or low neutrophil count (31%), diarrhea (18%), skin toxic effects (16%), asthenia or physical weakness (9%), stomatitis or inflammation of the stomach (6%) and fever (5%). While neither bevacizumab nor cetuximab groups met the primary endpoint of demonstrating a relevant increase in 10-month progression-free rate, modified FOLFOXIRI plus cetuximab appeared to be a feasible first-line treatment according to the researchers. The treatment allowed for impressive activity results among RAS and BRAF wild-type patients, therefore emerging as an appealing treatment option particularly when rapid and consistent tumour shrinkage is required.

3. Phase I study of Cobimetinib with Bevacizumab and Atezolizumab for colorectal cancer (Oct 24/17)

In this non-randomized phase I trial, the safety, tolerability and pharmacokinetics of cobimetinib in combination with bevacizumab and bevacizumab among patients with metastatic colorectal cancer will be evaluated. Cobimetinib is an oral MEK kinase inhibitor which targets cell signalling involved in cell division and growth. Atezolizumab is an anti-PD-1 antibody that when patients undergo treatment with epidermal growth factor receptor (EGFR) inhibitors such as cetuximab, it can lead to the activation of pro-angiogenic pathways that stimulate the growth and proliferation of tumour blood vessels.
L1 antibody which targets the PD-L1 and PD-1 receptor to prevent suppression of the immune system against cancer cells. Bevacizumab is an antibody which interferes with the process of new blood vessel formation (angiogenesis) in cancer cells. All patients will have received at least 1 previous therapy with fluoropyrimidine and oxaliplatin or irinotecan. Cobimetinib will be administered orally while atezolizumab and bevacizumab will be given intravenously. In the first stage of the trial, patients will receive the drug combination until the disease progresses, unacceptable toxicity or withdrawal from the trial. In the second stage of the trial, the patients will be divided into two groups. The first group will receive the drug combination and undergo repeated tumour biopsy. The second group will receive atezolizumab and bevacizumab plus the cobimetinib dose that was given in stage I. For more information regarding the study, including inclusion and exclusion criteria, locations and contact information, visit: https://clinicaltrials.gov/ct2/show/NCT02876224. The study is open and recruiting patients as of Oct 24, 2017 in the U.S., U.K., and Spain.


4. Treatment options in refractory mCRC: physician insights (Feb 20/18)

Insight from Andrea Cercek, MD

Currently, options for patients with metastatic colorectal cancer (mCRC) in the third-line setting depends on the molecular genomics. Among patients who are microsatellite-high (MSI-H), Keytuda (pembrolizumab) and nivolumab are approved treatment options in the U.S. These are generally considered among patients who have progressed after first-line and second-line therapy and have not yet been exposed to immunotherapy. Among patients who are RAS-wild-type, anti-EGFR therapy cetuximab or panitumumab with or without irinotecan could be considered. Among patients with RAS-mutant mCRC, options include a clinical trial with either targeted immunotherapy agents or immunotherapy combinations. Among the majority of patients who are microsatellite stable (MSS), single-agent immunotherapy does not have significant benefits. For refractory disease that does not respond to previous treatments, Stivarga (regorafenib) and Lonsurf (trifluridine/tipiracil) are the standard approved therapies in the U.S. Overall, many decisions for patients with mCRC in the third-line setting are focused on what will give the best quality of life. In this way, duration of treatment is incredibly important to ensure that the patients do not suffer unnecessary side effects.

Insight from Tanios Bekaii-Saab, MD, FACP

There are two options for patients with refractory mCRC, assuming that the patient does not enrol in a clinical trial that is specific for CRC. Lonsurf and Stivarga are part of the standard care for this group of patients. There is no data, however, that directly compares one treatment with the other. There are no randomized trials that suggest which one to start with. The ASCO 2018 Gastrointestinal Cancers Symposium has released more emerging data on the therapies, which is beginning to shed light on the sequencing of these therapies.

The RECORES trial examined the effects of Lonsurf versus best supportive care. About 20% of patients received Stivarga prior to Lonsurf, and the benefits of the latter did not appear to be compromised by prior exposure to Stivarga. This is only an analysis of a small subset of patients, so it cannot be applied on a larger scale. Another study from Asia examined the effects of Stivarga on patients with less pre-exposure to EGFR and VEGF inhibitors, such as cetuximab and bevacizumab. The study found that Stivarga may have greater efficacy among patients with less exposure to previous therapies. The REVERCE trial presented at ASCO’s 2018 Gastrointestinal Cancers Symposium suggested that the sequence of Stivarga before cetuximab, rather than the other way around which is generally the standard of care, produced a close to 6-month survival benefit. This was a highly, statistically significant outcome. Taking all of this data together, it is important to consider Stivarga as an option for patients at the time for which it is indicated, but not wait too long or far into the therapy journey when the patient is likely to lose benefit.

Insight from Zev A Wainberg, MD

Among patients with refractory mCRC who are MSI-H, there are two options approved when the disease is refractory – nivolumab (Opdivo) and pembrolizumab (Keytruda). The two drugs are similar, with fairly equivalent response rates and fairly equivalent toxicity profiles. The decision between the two drugs is arbitrary, perhaps depending more on the individual practitioner preference and experience with the agents.


5. IDEA’s practice-changing findings (Feb 9/18)

The International Duration Evaluation of Adjuvant Chemotherapy (IDEA) trial examined the duration of chemotherapy, 3 vs. 6 months, for patients receiving oxaliplatin-based chemotherapy. Treatment could either be FOLFOX (leucovorin, fluorouracil, oxaliplatin) or XELOX (capecitabine/oxaliplatin, also referred to as CAPOX). Over an 8-year period, 12,800 patients were surveyed with a focus on stage III disease. It is known that the neuropathy (dysfunction of the
peripheral nerves, typically causing numbness or weakness) associated with oxaliplatin treatment tends to become much worse in terms of grade 3-4 toxicity during the last 3 months of treatment. Indeed, it was observed in the IDEA trial that the rate of serious neuropathy was 2 to 3 times higher in the 6-month vs. the 3-month treatment arms.

When applying the IDEA trial results in clinical practice, some researchers suggest that among patients with earlier-stage disease who are young, fit and reasonable candidates to receive chemotherapy – a group that accounts for about 400,000 annual patients around the world – a 3-month chemotherapy regimen is recommended. Among patients presenting T4 or N2 tumours (i.e. advanced tumour size which has spread to regional lymph nodes and to some distant lymph nodes), if they are relatively young (under 70 years of age), a 6-month regimen should be considered while weighing the pros and cons specifically with respect to increased risk of neurotoxicity. This study presents important findings as it demonstrates the increased awareness of how treatment can and should change according to the stage of the disease. As such, the treatment becomes more personalized which increases positive outcomes while maintaining better quality of life for patients.


6. Adjuvant chemo still has value beyond 6 months after colon cancer surgery (Feb 20/18)

Findings from a retrospective study suggest that adjuvant chemotherapy is beneficial even if it is given 6 months or more after surgery for stage III colon cancer. When compared to colon cancer patients who did not receive adjuvant chemotherapy, patients who received chemotherapy within 6 weeks after surgery improved their chances of survival by 56%. Patients who received treatment within 6-8 weeks improved their survival by 55%, and those who received treatment within 8-12 weeks, 48%. Even when patients received chemotherapy after 24 weeks they still experienced a treatment benefit, improving their survival by 32%. This benefit held true even among patients who had post-surgery complications and patients with multiple comorbidities (i.e. other simultaneous diseases, such as heart disease or diabetes) who may not be able to undergo chemotherapy in the “ideal” postoperative window.

Currently, many medical oncologists will not offer adjuvant chemotherapy after a certain period of time has passed after surgery under the belief that giving chemotherapy outside of this perceived “therapeutic window” will not have any benefit. This study, however, questions this belief. The study results validate the usefulness of chemotherapy even when administered in a delayed fashion up to 6 months or more after surgery, and even among patients with postoperative complications or comorbidities. The researchers suggest that clinicians should consider adjuvant chemotherapy for patients with stage III colon cancer, even if there needs to be a post-surgical delay. While these study results may not be enough to change standard practice, they certainly bring awareness to adjuvant chemotherapy and whether clinicians should ever decline this treatment to patients outside the traditional treatment window.


SURGICAL THERAPIES

7. Tumour-targeted fluorescence may help pinpoint cancer during surgery (Feb 9/18)

A small phase II pilot study has developed SGM-101, a fluorescent antibody that targets carcinoembryonic antigen (CEA) to help detect colorectal cancer (CRC) metastases during surgery. CEA is overexpressed in 90% of CRCs, and is a promising target for imaging. In the study, 9 patients with primary CRC with increased serum CEA since the time of their diagnosis were scheduled for open or laparoscopic tumour resection. 17 patients with recurrent or peritoneal metastases of CRC, with increasing CEA concentration since their diagnosis, were scheduled for open surgical resection of their tumours. The first group received 5mg, 7.5mg or 10mg of SGM-101 intravenously for 30 minutes either two or four days before surgery, and the second group received a dose similar to the doses used in the first group. During surgery, imaging was used to identify fluorescent lesions which were resected and assessed for fluorescence. No changes in vital signs, electrocardiogram or laboratory results were found in either group after the maximum dose of 10mg of SGM-101 was administered.

In the first group, the 10mg dose given four days prior to the surgery was associated with the highest tumour-to-background ratios (i.e. highest signal picked up on imaging). In the second group, imaging detected 19 or 43 lesions (43%) that had not been previously clinically suspected. These results changed the treatment strategy for six (35%) of the patients. Fluorescence imaging detected lesions with 98% sensitivity, 62% specificity and 84% accuracy. Study researchers indicate that the key findings of the study were that they were able to identify CRC and metastases in real time and that in 35% of their patients, the surgical plan was updated to a more personalized approach. While this preliminary study is promising as about 40% of patients were found to have some additional cancer site found using the technique, researchers emphasize that SGM-101 will be useful for only about 50% of CRC patients as only half tend to have significantly elevated CEA levels. The true impact of this technique can only be validated with longer follow-up and larger population size to examine how recurrence and survival rates are truly influenced.

A surgeon’s view of ovarian cancer cells with and without the tumour-targeted fluorescent imaging agent.  

8. Hepatic Artery Infusion Pump (HAIP) Chemotherapy Program – Sunnybrook Odette Cancer Centre (Nov.10/17)

The HAIP program is a first-in-Canada for individuals where colon or rectal cancer (colorectal cancer) has spread to the liver and cannot be removed with surgery. The program involves a coordinated, multidisciplinary team approach to care, with close collaboration across surgical oncology, medical oncology (chemotherapy), interventional radiology, nuclear medicine, and oncology nursing. The Hepatic Artery Infusion Pump (HAIP) is a small, disc-shaped device that is surgically implanted just below the skin of the patient, and is connected via a catheter to the hepatic (main) artery of the liver. About 95 percent of the chemotherapy that is directed through this pump stays in the liver, sparing the rest of the body from side effects. Patients receive HAIP-directed chemotherapy in addition to regular intravenous (IV) chemotherapy (systemic chemotherapy), to reduce the number and size of tumours. Drs. Paul Karanicolas and Yooj Ko are the program leads and happy to see patients eligible for the therapy.

Presently at Sunnybrook Odette Cancer Centre, HAIP is being used in patients with colorectal cancer that has spread to the liver that cannot be removed surgically, and has not spread to anywhere else in the body. Patients who have few (1-5) and very small tumors in the lungs may be considered if the lung disease is deemed treatable prior to HAIP. If you believe you may benefit from this therapy and/or would like to learn more about the clinical trial, your medical oncologist or surgeon may fax a referral to 416-480-6179. For more information on the HAIP clinical trial, please click on the link provided below.

http://sunnybrook.ca/content/?page=colorectal-colon-bowel-haip-chemotherapy

9. Living donor liver transplantation for unresectable colorectal cancer liver metastases (May 2017)

Approximately half of all colorectal cancer (CRC) patients develop metastases, commonly to the liver and lung. Surgical removal of liver metastases (LM) is the only treatment option, though only 20-40% of patients are candidates for surgical therapy. Surgical therapy adds a significant survival benefit, with a 5-year survival after liver resection for LM of 40-50%, compared to 10-20% 5-year survival for chemotherapy alone. Liver transplantation (LT) would remove all evident disease in cases where the colorectal metastases are isolated to the liver but considered unresectable.

While CRC LM are considered a contraindication for LT at most cancer centers, a single center in Oslo, Norway demonstrated a 5-year survival of 56%. A clinical trial sponsored by the University Health network in Toronto will offer live donor liver transplantation (LDLT) to select patients with unresectable metastases limited to the liver and are non-progressing on standard chemotherapy. Patients will be screened for liver transplant suitability and must also have a
healthy living donor come forward for evaluation. Patients who undergo LDLT will be followed for survival, disease-free survival and quality of life for 5 years and compared to a control group who discontinue the study before transplantation due to reasons other than cancer progression.

https://clinicaltrials.gov/ct2/show/NCT02864485

RADIATION THERAPIES/INTERVENTIONAL RADIOLOGY

10. Selective internal radiotherapy fails again in mCRC (Feb 9/18)

The FOXFIRE study examined patients with metastatic colorectal cancer (mCRC) and liver only or liver-dominant metastasis who had not undergone chemotherapy. The patients were randomized to receive either oxaliplatin-based chemotherapy with or without a biological agent (i.e. targeted antibody therapy), or to receive the same chemotherapy with the addition of a single treatment of selective internal radiotherapy (SIRT) using yttrium-90 resin microbeads delivered through the hepatic artery. The study aimed to determine whether there is an overall survival benefit of SIRT compared to chemotherapy alone. Previous research has already confirmed that SIRT significantly improves progression-free survival within the liver but does not have an important impact on overall progression-free survival. The FOXFIRE study did not demonstrate any benefit to progression-free or overall survival from the addition of SIRT to chemotherapy. Researchers believed that the addition of SIRT would allow for the downsizing of hepatic metastases to allow for greater or more aggressive surgical intervention. Perhaps if this were observed in larger numbers in the study, it would have reflected in an improved overall survival. All in all, the lack of benefit from the addition of SIRT indicates that it cannot be recommended as part of conventional clinical practice in the treatment of mCRC.

Selective internal radiation therapy (SIRT) is a form of radiation therapy used in interventional radiology to treat cancer. The treatment involves injecting tiny microspheres of radioactive material into the arteries that supply the tumor.

https://clinicaltrials.gov/ct2/show/NCT02528175?term=magnetic+resonance+guided+focused+ultrasound&recr=Open&rank=1

11. Study Offered at the Odette Cancer Centre to Treat Recurrent Rectal Cancer (Jan.18/18)

Magnetic resonance-guided focused ultrasound (MRg-FU) is a non-invasive, outpatient modality being investigated for the thermal treatment of cancer. In MRg-FU, a specially designed transducer is used to focus a beam of low intensity ultrasound energy into a small volume at a specific target site in the body. MR is used to identify and delineate the tumour, focus the ultrasound beam on the target and provide real-time thermal mapping to ensure accurate heating of the designated target with minimal effect to the adjacent healthy tissue. The focused ultrasound beam produces therapeutic hyperthermia (40–42°C) in the target field causing protein denaturation and cell damage. Currently, there is no prospective clinical data reported on the use of MRg-FU in the setting of recurrent rectal cancer. Recurrent rectal cancer is a vexing clinical problem. Current retreatment protocols have limited efficacy. The addition of hyperthermia to radiation and chemotherapy may enhance the therapeutic response. With recent advances in technology, the investigators hypothesize that MRg-FU is technically feasible and can be safely used in combination with concurrent re-irradiation and chemotherapy for the treatment of recurrent rectal cancer without increased side-effects. The study is being offered at the Odette Cancer Centre. Here is the link to the study protocol:


https://clinicaltrials.gov/ct2/show/NCT02528175?term=magnetic+resonance+guided+focused+ultrasound&recr=Open&rank=1
12. Computed tomography colonography versus colonoscopy for the diagnosis of colorectal cancer: a systematic review and meta-analysis (Feb 21/18)

Optical colonoscopy (OC) is the first choice for screening to determine the state of the colon and is excellent for colorectal cancer (CRC) screening. Recent technologies such as computed tomography colonography (CTC) may also be useful in CRC screening. A systematic review of the literature which examined all the available randomized clinical trials compared the benefits of CTC and OC for CRC screening in patients without symptoms. 2,333 of the 8,104 patients invited for screening underwent CTC, and only 1,486 of the 7,310 patients who were invited for screening underwent OC. The two tests were used to detect advanced colorectal neoplasia (ACN). Of the 2,357 patients who underwent CRC, 5.7% were diagnosed with ACN. Of the 1,524 patients who underwent OC, 8.5% were diagnosed with ACN. The absolute risk difference in ACN detection rate in the two procedures was in favour of OC.

In conclusion, CTC remains an option for CRC screening among asymptomatic patients as it is better accepted than colonoscopy by the population and could help to increase the rate of participation in CRC screening. It was inferior, however, in detecting ACN and should not replace OC, which remains the gold standard of screening. CTC is a CRC screening option for patients who are unable or unwilling to undergo colonoscopy, and the decision regarding which method to use should be made jointly with the patient.

https://www.dovepress.com/computed-tomography-colonography-versus-colonoscopy-for-the-diagnosis-peer-reviewed-fulltext-article-TCRM

13. Second-generation device improves colorectal adenoma detection Feb 8/18

According to results from the ADENOMA trial, colonoscopy done with the second-generation Endocuff Vision (EV) is linked to better adenoma-detection rates. EV is a device that is mounted onto the tip of a colonoscope, designed to enhance visualization of the intestinal wall by holding back colonic folds as the colonoscope is being withdrawn from the colon. Among patients who had tested positive with the fecal occult blood screening test, there was a 10.8% increase in adenoma detection rate with the EV colonoscopy. In the randomized trial, 1,772 patients (average age of 62 years) were surveyed. Adenoma-detection rate (ADR), the most important marker of colonoscopy quality, was significantly higher with EV colonoscopy (40.9%) compared to standard colonoscopy (36.2%). Polyps were detected at a significantly higher frequency with EV colonoscopy (54.1%) than with standard colonoscopy (48%), as were colorectal cancers (4.1% compared to 2.3%). 8.6% of patients found the insertion of the EV colonoscope more uncomfortable than without, but no other measures of comfort differed significantly between the two colonoscopy groups. This trial provides strong evidence that EV improves visualization which is essential to high-quality colonoscopy.


14. Early palliative care may add QoL benefit to psychosocial support (Feb 22/18)

A new randomized trial conducted in Belgium found that early integration of palliative care into the standard oncological care for patients with advanced disease who already receive psychological support significantly improves their quality of life. The World Health Organization’s (WHO) definition of palliative care is an approach that improves
the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual. Both the WHO and the American Society of Clinical Oncology recommend that palliative care be offered early in the course of life-limiting disease. Results from several trials have demonstrated that this approach improves quality of life among patients with a range of cancer types.

To determine if early palliative care would provide an additional benefit, 186 patients were assigned to receive early, systematic palliative care beginning within 12 weeks of diagnosis of a new primary tumour or disease progression, or standard care, in which patients received palliative consultations by request. Within 18 weeks, 89% of patients in the intervention group had at least one consultation with a palliative care nurse, and 60% had three or more by 24 weeks. In the control group, 18% had at least one consultation by 18 weeks and 13% had at least three by 24 weeks. Using the European Organisation for Research and Treatment of Cancer Quality of Life (QOL) Questionnaire version 30, the intervention group scored an average of 61.98 and the standard care group scored an average of 54.39. Though the difference in QOL was significant, it did fall short of the 10-point difference judged to be clinically significant.

By 18 weeks, 37% of patients in the intervention group and 22% of control patients had consulted at least one time with a psychologist. Despite not achieving a clinically significant difference, the researchers emphasize that even in standard oncology care that offers psychological support, early palliative care is still beneficial for patients with advanced cancer as it improves their overall QOL. The study also showed that interventions led by palliative care nurses had a similar benefit to those led by physicians – previous trials had only examined physician-led or mixed physician and nurse interventions. Future steps for the researchers include investigating whether early, systematic palliative care benefits family caregivers. They also plan to focus on how these interventions work in the long-term, and whether these QOL benefits hold true.


15. Candirect research study: Learn more about a study for patients who have completed their cancer treatments and are experiencing low mood (Nov 2/17)

15% of cancer survivors are estimated to experience mood problems even one year post-treatment. The CanDirect research study aims to support cancer survivors with mood problems by providing study participants with a self-care toolkit designed to help users better manage their mood and anxiety as well as phone coaching for a maximum duration of 6 months. Participation is open to eligible adult survivors residing in Quebec and Ontario who have completed cancer treatment for a non-metastatic cancer and who are experiencing depressive symptoms. For additional information, please click on the following link:

https://clinicaltrials.gov/show/NCT02890615

16. “Unrealistic expectations” for cancer survivorship care plans (Feb 21/18)

Cancer survivorship care plans (SCPs) are being increasingly endorsed by professional and advocacy organizations but their true benefit to patients remains unclear. SCPs include guidelines for monitoring and maintaining a patient’s health by recording medical history, details of treatment received, and plans for surveillance to target the unique problems that cancer survivors face. According to a new study, minimal evidence was found to support the benefit from such plans at improving survivorship care and outcomes such as psychological, physical and functional well-being. Findings were positive for other outcomes, including the amount of information received, satisfaction with care and cancer-related contacts with a primary care physician.

Currently, a debate is focused on whether the evidence presented will change the standard of care. While SCPs are not causing harm to patients, the cost of implementing them may be too high especially if the evidence is so scarce to support them. Furthermore, these plans are so variably implemented, with only 43% of National Cancer Institute–designated cancer centres delivering SCPs, and only 20% of oncologists routinely providing SCPs. To make the care plans more effective, experts suggest that SCPs be focused on higher risk patients. Further research is necessary to determine which form of survivorship care is best at what time for each patient along their journey.


17. Increased risk for CVD in some cancer survivors (Feb 27/18)

Today, cancer survivors are living longer than ever which raises the importance of awareness of other health concerns such as cardiovascular disease (CVD). A new study focused on CVD incidence among colorectal cancer (CRC) survivors and found a significant increase in the risk of CVD 10 or more years after their diagnosis compared to the general population. To date, few studies have looked at the relationship between CRC survivorship and long-term CVD risk. CRC and CVD share common risk factors like obesity, lack of physical activity, and smoking, which make it necessary to better understand the long-term risk of CVD among this population. In the study, 1,749 CRC survivors who had at least
10 years of follow-up were surveyed. Among the survivors, 1,001 (57.2%) were diagnosed with CVD 10 or more years post-diagnosis. Compared to the population at large, survivors had an increased risk for hypertension, diseases of the heart, diseases of the blood vessels and lymphatics and cerebrovascular disease. The risk of broadly-defined CVD was doubled among CRC survivors compared to the general population (38.5% vs. 15%) and there was an increased risk for the more specific definitions of CVD, such as acute myocardial infarction (heart attack) (2.63% vs. 1.31%) and transient cerebral ischemia (a common precursor to stroke) (2.25% vs. 0.62%). With a population that is living longer and longer, better surveillance is necessary for recurrence and care for longer-term/chronic effects of cancer and treatment, as well as evaluation for CVD and other late-onset effects.

18. Young adult colorectal cancer clinic available at Sunnybrook (Jan.18/18)

A recent study led by University of Toronto doctors has observed a rise in colorectal cancer rates in patients under the age of 50. The study mirrors findings from the U.S., Australia and Europe. The growing colorectal cancer rates in young people come after decades of declining rates in people over 50, which have occurred most likely due to increased use of colorectal cancer screening (through population-based screening programs) which can identify and remove precancerous polyps. Patients diagnosed under the age of 50 have a unique set of needs, challenges and worries. They are unlike those diagnosed over the age of 50. Dr. Shady Ashamalla (colorectal cancer surgical oncologist), and his team at the Sunnybrook Health Sciences Centre understand the needs of this patient population.

Dr. Ashamalla belongs to a multidisciplinary team of experts in the Young Adult Colorectal Cancer Clinic who will work with young colorectal cancer patients, regardless of disease stage, to create an individualized treatment plan to support each patient through their cancer journey. Their needs and concerns will be addressed as they relate to:

- Fertility concerns and issues
- Young children at home
- Dating/intimacy issues
- Challenges at work
- Concerns about hereditary cancer
- Relationships with family and friends
- Psychological stress due to any or all of the above

The team of experts consist of:

- Oncologists (medical, surgical, radiation)
- Social workers
- Psychologists
- Geneticists
- Nurse navigator

Should a patient wish to be referred to Sunnybrook, they may have their primary care physician or their specialist refer them to Sunnybrook via the e-referral form which can be accessed through the link appearing below. Once the referral is received, the Young Adult Colorectal Cancer Clinic will be notified if the patient is under the age of 50. An appointment will then be issued wherein the patient will meet with various members of the team to address their specific set of concerns.

http://sunnybrook.ca/content/?page=young-adult-colorectal-cancer-clinic

19. 2018 SURVIVORSHIP: Exercising during chemotherapy for breast or colon cancer has long-term benefits (Feb 13/18)

A recent follow-up study to a randomized clinical trial showed that exercising during adjuvant chemotherapy helps people be more physically active years later. After four years, people with breast or colon cancer who had participated in an 18-week exercise program while receiving chemotherapy engaged in 142 minutes per week or 20 minutes per day more than people who did not participate in the exercise program. Exercising during chemotherapy can help to reduce treatment-related side effects like fatigue, pain and nausea. The study is the first to demonstrate how
In the study, participants completed 60 minutes of combined moderate-to-high-intensity aerobic and strength training twice a week under the supervision of a physical therapist, plus 30 minutes of home-based physical activity 3 days a week. In the short-term, participants reported the exercise regimen to be effective in minimizing fatigue related to treatment. The program integrated cognitive behavioural elements targeted at increasing the patients’ confidence to be physically active. After four years, the study participants were surveyed to see if the exercise intervention had any long-term benefits. Patients who participated in the exercise group reported engaging in moderate-to-vigorous physical activity such as jogging or cycling, 90 minutes a day, on average, while those in the non-intervention group reported 70 minutes of moderate-to-vigorous activity per day. In the past, patients were often told to rest and minimize physical activity during treatment. Today, with more and more studies to support the benefits of physical activity during treatment, it is known that it can make a significant impact on survivors’ health and quality of life in the long run.

http://www.ascopost.com/News/58531


20. Nut consumption may aid colon cancer survival (Feb 28/18)

According to a new study, people with stage III colon cancer who eat nuts regularly are at a significantly lower risk of cancer recurrence and mortality compared to people who don’t. The study included 826 participants enrolled in a clinical trial for a median of 6.5 years after they underwent surgery and chemotherapy. Participants who consumed at least two, one-ounce servings of nuts per week showed a 42% improvement in disease-free survival and a 57% improvement in overall survival. As researchers deepened their analysis, they found that among this subgroup, those that ate tree nuts (almonds, walnuts, hazelnuts, cashews, pecans, etc.) rather than peanuts (a legume, not a true nut) increased their disease-free survival by 46%. The researchers emphasize that the study highlighted connections between biological mechanisms that worsen disease not just in colon cancer but also in chronic illnesses like type 2 diabetes. Past research has supported the claim that nuts, in addition to other health benefits, may help to reduce insulin resistance, a condition in which the body has difficulty uptaking and processing the insulin hormone. Many of the risk factors which increase insulin resistance, such as obesity and lack of exercise, are also risk factors for colon cancer. The research supports the hypothesis that behaviours that make you less insulin resistant, including eating nuts, seem to improve outcomes in colon cancer. While some patients may not be eating nuts due to concerns they may have about the high fat content, researchers point to countless studies that demonstrate that regular nut consumers tend to be leaner overall. Dietary changes can make a big difference in disease outcomes. The researchers aim to apply the same rigorous study to the understanding of diet and lifestyles that is applied to defining new drugs among the colon cancer population.


https://www.sciencedaily.com/releases/2018/02/180228160438.htm

Image source: http://dremitkarkare.com/

1. Colorectal cancer: the importance of diet (Mar 9/18)
Countless studies have suggested that a diet rich in red meat is linked to an increased risk of colorectal cancer (CRC). A review of the evidence in support of this link points out that “consumption of red meat might be related directly to the incidence of CRC or indirectly because a diet high in meat tends to be low in vegetables, fruit, and fibre.” A study that surveyed populations in Northern Italy found that people who frequently ate meat alongside eggs, cheese, and other fatty foods, in addition to refined starches, were almost twice as likely to develop rectal or colon cancer than people who favoured a plant-based diet. Further recent research revealed that increasing meat consumption by 100 grams per day is associated with a significant 12-17% increase in CRC risk. The 2015 report by the International Agency for Research on Cancer made headlines when they revealed that every 50g portion of processed meat, such as salami or bacon, eaten per day increases a person’s risk of developing colorectal cancer by 18%. This evidence led the World Health Organization to classify processed meats as “carcinogenic to humans”.

Now that it is well-known that eating lots of red meat and processed foods increases your risk of cancer, what should we be eating? Countless studies point to a diet high in fruits, vegetables, and fibres to help minimize your risk. One study examined four types of plant-based diets:

1. vegan, or no products of animal origin;
2. lacto-ovo vegetarian, which includes dairy and eggs but no meat;
3. pesco-vegetarian, which includes fish but no meat;
4. semivegetarian, which includes meat and fish infrequently.

Researchers concluded that all of these plant-based diets rich in fruits, vegetables, nuts, and whole grains, were less likely to result in cancer compared to non-vegetarian diets.

When a patient is undergoing cancer treatment, favouring “rainbow plate” meals which include an array of fruits and vegetables to boost their immune systems is highly recommended. It is also very important to drink lots of water and stay hydrated. While some cancer guidelines suggest avoiding caffeine, a study conducted by researchers at the Dana Farber Cancer Institute in Boston found that those undergoing treatment for colorectal cancer almost halved their risk of cancer recurrence if they drank four cups of coffee, or the equivalent of 460 mg of caffeine, per day. Boosting fibre intake and eating whole grains was linked to better treatment outcomes according to research published last year in JAMA Oncology. Another study from last year suggests that eating at least 2oz of tree nuts, such as cashews, hazelnuts, walnuts, and almonds, just about cut the risk of colon cancer recurrence in half for patients following stage III cancer treatment. Furthermore, eating more tree nuts was found to reduce the risk of death following treatment by 53%.

All in all, it is becoming more evident that lifestyle factors such as the food we eat may be more important than genetic risk factors when it comes to developing colorectal cancer, and happen to be the factors which we can change. Eating well and staying fit is some of the best preventative medicine!

https://www.medicalnewstoday.com/articles/321171.php

5. Consumption of ultra-processed foods and cancer risk: results from NutriNet-Santé (Feb 14/18)

A recent study published in the British Medical Journal aimed to evaluate the association between consumption of ultra-processed food products and the incidence of cancer. The researchers identified several characteristics of ultra-processed foods that may be involved in causing the disease. First, ultra-processed foods tend to have a higher fat content and added sugar and salt, alongside a lower fibre and vitamin content. Beyond their nutritional composition, these foods contain contaminants, some of which have been identified as carcinogenic (ex. acrylamide, heterocyclic amines, and polycyclic aromatic hydrocarbons), and are present in heat-treated processed foods. Furthermore, the packaging of ultra-processed foods may also contribute to their chemical content. It has been suggested that carcinogens and endocrine disruptors such as bisphenol A, which are present in food packaging, may leach into the processed foods with which they remain in contact for possibly very long periods of time. Lastly, ultra-processed foods contain some food additives which have been deemed “safe”, but remain controversial. These include sodium nitrite in processed meat or titanium dioxide as a white pigment, for which cancer-causing properties have been suggested in animal or cellular models.
In the study, 104,980 participants aged 18 years or older (median age 42.8 years) from the French NutriNet-Santé cohort were surveyed. Dietary intakes were collected using repeated 24-hour dietary records, aimed at registering participants’ usual consumption for 3,300 different food items. These items were categorized according to their degree of processing using the NOVA classification of products. Associations between ultra-processed food intake and risk of overall breast, prostate, and colorectal cancer were assessed. Researchers found that a 10% increase in the proportion of ultra-processed foods in the diet was linked to a significant increase of more than 10% in risks of overall and breast cancer. More specifically, ultra-processed fats, sauces, sugary products, and drinks were linked to an increased risk of overall cancer, and ultra-processed sugary products were linked with risk of breast cancer. Further studies will be necessary to better understand which factors in processed foods, whether it is nutritional composition, food additives, contact materials, and/or contaminants, that are driving this association.


Relative contribution of each food group to ultra-processed food consumption in diet. Source: http://www.bmj.com/content/360/bmj.k322

6. A Phase III study on the impact of a physical activity program on disease-free survival in patients with high risk stage II or stage III colon cancer: a randomized controlled trial (CHALLENGE) (Nov.15/17)

The purpose of this study is to compare the disease-free survival of patients involved in a physical activity program (designed to increase physical activity participation) who also receive general health education materials (about diet and physical activity) to patients who receive the general health education materials only. This study is being done because, as of yet, there is no conclusive evidence that physical activity will decrease the likelihood of colon cancer recurrence. This study will also obtain important information about the impact of physical activity on patients’ physical functioning, body composition, quality of life, fatigue, mood, cytokines and the insulin pathway, and their influence on prognosis, as well as cost-effectiveness.

Eligibility: Medically fit colon cancer patients (high risk stage II and stage III) who have completed adjuvant chemotherapy within the past 60-180 days. Current physical activity levels must not meet the recommended...
guidelines (≥150 minutes of moderate-to-vigorous or ≥75 minutes of vigorous exercise/week). Following registration, and prior to randomization, patients must successfully complete at least two stages of a submaximal exercise test to ensure they are able to safely exercise at a moderate to vigorous intensity.

**Participation:** Limited to invited centres. For more information, visit the link below:
https://scooby.ctg.queensu.ca/tum_bank/tum.php?g_cmd=trial_info&g_trial_cd=CO21

**24. High dose Vitamin D supplementation in Stage 4 Colorectal Cancer Patients (Jan. 18/18)**

A large body of evidence suggests that high blood levels of Vitamin D decreases the risk of developing cancer, especially colorectal cancer. Very little is known about what role optimum blood levels of Vitamin D can play in the treatment of cancer. The purpose of this clinical trial is to study the therapeutic effect and the safety of high-dose vitamin D supplementation in stage 4 (metastatic) colorectal cancer patients. Who is eligible to participate? Anyone who has a stage four colorectal cancer diagnosis, living in Ontario or British Columbia, may be eligible to participate. All participants need to have access to a Lifelabs facility for blood and urine collections. What is involved? This 40-month study involves regular lab tests and follow up phone calls. Participation is fully voluntary, and participants may withdraw at any time. Participants will be randomized into either a high-dose vitamin D treatment group or a control group. Participants in both groups may continue all other cancer treatments including chemotherapy. Treatment group: Participants in the treatment group receive daily oral high dose Vitamin D supplementation provided free of charge through the clinical study. They also receive daily calcium supplementation 1000mg daily as per guidelines, provided free through the clinical study. Participants will have monthly blood and urine tests for monitoring purposes. All laboratory tests are free of charge. Participants also need to be available for a 15-minute phone consultation with a study coordinator every 2 months. Control group: Participants in the control group will continue their usual amount of Vitamin D and/or calcium if they wish to do so. No supplements will be provided through the study. Participants will be asked to provide a small blood and urine sample at the beginning of the study, every 6 months and at the end of the study. These blood and urine tests will be free of charge. Contact person: If you have any further questions regarding this study or you are interested in participating in this study, please contact us: **British Columbia:** 604-734-7125, toll free 1-888-734-7125 or vitDstudy@inspirehealth.ca **Ontario:** 613-792-1222, toll free 1-855-546-1244 or research@oicc.ca