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SAVE THE DATE!

FALL UPDATE ON THYROID, PARATHYROID AND HEAD & NECK CANCERS
SATURDAY OCTOBER 13, 2018



A note from Dr. Carl Brown, the new BC Cancer Surgery Provincial Lead and chair of the Surgeon Network (formerly Surgical Oncology Network):

While surgical care is the core treatment modality for the majority of solid organ cancers, over the past twenty years there have been few resources dedicated to cancer surgery in British Columbia. As a result, we have fallen behind many provinces in quality assurance infrastructure, regional organization and strategic resource allocation in the domain of oncologic surgery. However, there are clear indications that this is going to change.

In 2015, the BC Ministry of Health published “Future directions for surgical services in British Columbia”, a policy paper in which cancer surgery is cited as an area of focus for the province. Subsequently, in 2017, new BC Cancer President and CEO Dr. Malcolm Moore expressed his vision for cancer care in BC, which included a renewed interest in and support for surgical oncology. In this

policy paper, specific plans include: expanded central and regional surgeon leadership, measurement and feedback of important quality metrics, substantive partnerships between BC Cancer and Regional Health Authorities/hospital leadership, and regional support for complex cancer care.

The creation of a Provincial Lead for Surgery at BC Cancer is a first step in achieving these goals, and I am excited and humbled by the challenge before me in this role. My experiences as a surgeon at St. Paul’s Hospital, including many interactions with surgeons across disciplines and throughout the province, give me great confidence that we can successfully improve surgical care for cancer patients.

Over the next couple of years, I will reach out to many of you to understand the key challenges you face in managing cancer patients. Is there adequate access to diagnostic modalities, such as CT, MRI, scopes, etc? Are there enough surgeons in your hospital/region? Is there subspecialty surgical support for complex cases? Is there adequate and timely access to our medical and/or radiation oncology colleagues? Is OR time for cancer patients adequate? These challenges may be tumour or region specific, and I

will try to corroborate your concerns with available data so we can advocate for appropriate resources to meet your patients' needs.

My goals over the next 3-5 years include:

- Enhancement of the excellent work by the Surgeon Network, including this newsletter, the annual Fall Update course and support for cancer surgery research.
- A surgeon driven needs assessment related to streamlining surgical care.
- A bi-annual provincial cancer surgery wait time assessment
- Cancer Surgery Report Cards for institutions that provide cancer surgical care, analogous to NSQIP reports.
- Regional cancer surgery leadership.
- Support for regional and/or provincial referral centres for complex cancer surgery.

Many of the challenges in cancer care manifest as excessive wait times for surgery. While it is currently a challenge to measure the time it takes to thoroughly evaluate a cancer patient prior to booking them for surgery, we can determine the relative wait time for surgery once they have been booked. In partnership with the Surgical Patient Registry (SPR), we will work to validate cancer diagnosis and dynamically assess our wait times against both national averages and tumour specific benchmarks.

In recent years, we have learned that a critical motivator for improved surgical care is the provision of data to the surgeons who provide this care. In BC, the experience with the National Surgical Quality Improvement Program (NSQIP) has demonstrated marked improvements in perioperative morbidity in almost every jurisdiction. Similarly, we will work to identify measurable cancer surgery quality indices, and provide these to institutions with the associated variance, anonymized comparison to similar institutions and benchmark targets for each.

Concurrent with work to establish wait time and surgical quality markers, we will establish cancer surgery leadership in each region. These leaders will work with surgeons, health authorities, and hospital leadership to translate this important data into strategies and substantive action to improve areas where we fall short of targets. The guiding principle in this work is to provide the best patient centred cancer surgical care as close to home as possible.

While we have lacked critical organization in the provision of cancer surgery in BC, the good outcomes we see in most areas of surgical oncology are a testament to the excellent surgeons that are the backbone of our system. I look forward to working with you in the spirit of collaboration so we can create a system that will be a national leader in cancer surgery care.

HIGHLIGHTS FROM THE FALL UPDATE 2017: COLORECTAL CANCER MANAGEMENT



DR. MANOJ RAVAL
CHAIR, BC CANCER SURGEON NETWORK
COLORECTAL SURGICAL TUMOUR GROUP

The annual Surgeon Network Fall Update was held in Vancouver October 14, 2017, with over 50 surgeons and residents in attendance.

Dr. Manoj Raval, head of the Network's colorectal surgical tumour group, welcomed the attendees and moderated the symposium. Key points are summarized here, but readers are strongly encouraged to review the presentations, available on the Surgeon Network website.

This year's topic was colorectal neoplasms, with the theme being comprehensive and multidisciplinary management. A new addition this year were presentations on topics not

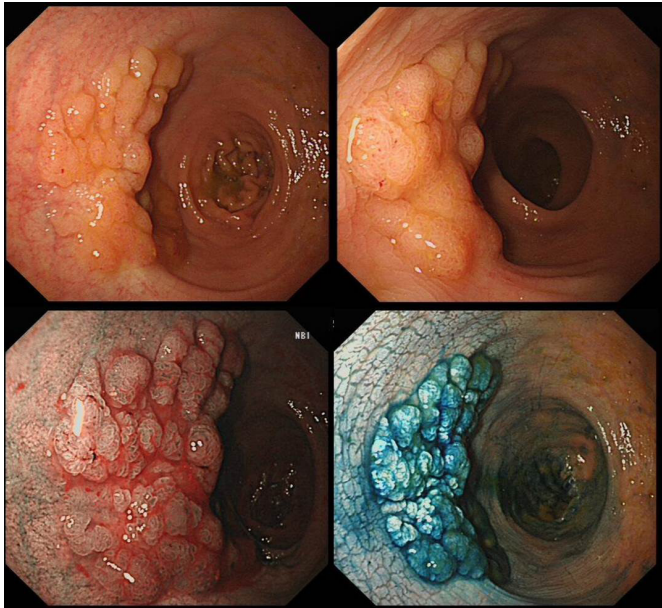
exclusive to colorectal cancer, but which are nevertheless critical to any surgeon involved in colorectal cancer care.

No longer an over-50 Problem

Dr. Cailan MacPherson, a colorectal surgeon from Victoria, began the day and presented observational evidence suggesting a concerning increase in colorectal cancer incidence in the under-50 population over the past few decades. In contrast, during the same period, incidence in the over-50 was actually declining. It is unclear what is driving this change – theories include lifestyle factors and screening awareness – but the evidence does not yet support earlier screening. Nonetheless, typically the disease is more aggressive and presents more advanced in younger patients, so concerning symptoms should be investigated as early as possible. To this end, education of the general public and health care providers is of paramount importance.

Surgery vs Endoscopy

Next, Drs. Eric Lam (GI, St. Paul's Hospital) and Terry Phang (colorectal surgery, St. Paul's Hospital) discussed operative and advanced endoscopic approaches to large colorectal polyps not amenable to conventional snare removal. Dr. Lam stressed the importance of careful examination of large polyps to estimate the risk of malignancy and to assess technical feasibility of complete removal with snare polypectomy methods. Schema such as the Paris classification, Kudo pit pattern, and degree of granularity to accurately describe polyps and assess cancer risk are useful. In general, the flatter or larger the lesion, the higher the risk of it harboring a malignancy. Dr. Lam showed videos of advanced techniques such as endoscopic mucosal resection and endoscopic submucosal dissection, reviewed appropriate indications for each, and discussed when to refer a patient for these. In addition, if such patients are to be referred, he recommended taking many pictures from different angles, avoiding partial resection, performing biopsies only if frankly malignant, and not tattooing too close to the lesion (less than 3cm). He presented the evidence for ESD as an option for definitive treatment of early colorectal cancer (T1, sm1), but also discussed the risk of perforation and steep learning curve.



HIGH RESOLUTION POLYPS

The Case for Surgery

Dr. Phang then reviewed the role of surgical intervention for these polyps. No RCT's of EMR vs ESD or ESD vs TEM are available, though trials for both are currently recruiting. Retrospective comparisons suggest less recurrence for ESD over EMR, and TEM over ESD, however. Consistent with Dr. Lam, he recommended thoughtful assessment

of polyps before attempting to partially or fully resect, as this may compromise future less invasive techniques or commit the patient to a radical resection. For rectal lesions, endoscopic assessment of height from the anal verge or top of sphincter and anatomic location (lateral, anterior, posterior) be documented for operative planning. He then reviewed high risk histology (e.g. Lymphovascular invasion, positive margin) and the clear need for segmental resection in these scenarios, with the possible exception of patients who have restrictive comorbidities. Such patients should be discussed in multidisciplinary rounds and be able to commit to careful surveillance. As a final point, patient preferences must be solicited prior to multidisciplinary conference.

Role of Pre-op Imaging

This year's special guest speaker was Dr. Don Buie, a colorectal surgeon from Calgary. The first of his two presentations was regarding the assessment of preoperative imaging in rectal cancer multidisciplinary conference, and how the surgeon should play a lead role in overall management. MRI was described as minimum standard for all patients with rectal cancer, with endorectal ultrasound (ERUS) in addition when local excision is considered. Furthermore, because high-quality, consistent MRI is essential for optimal treatment planning, a standardized, comprehensive reporting system should be used. Many centres in Canada use a variant of that developed by Cancer Care Ontario. Key elements of the report include evaluation and quantification of the circumferential resection margin (critical for prognosis), relationship to the pelvic floor and sphincters, and extent of local cancer (T3/T4, extramural vascular invasion, nodal disease). In addition, the role of repeat MRI to assess neoadjuvant response was recommended, particularly in locally advanced or low tumours. Due to the morbidity of radiation, evidence for proceeding straight to surgery for select rectal cancers was discussed. These included early T3, node-negative lesions and absence of EMVI or other high-risk features. Several illustrative cases were presented, with the MRI images available online. Dr. Buie discussed the structure of rectal cancer MDC at his centre, and stressed the importance of 'buy-in' by all stakeholders.

Operate or Observe?

After lunch, Dr. Buie returned to review the role of non-operative management where a rectal appears to disappear after neoadjuvant chemoradiation (complete clinical response). He reminded attendees that the current oncologic standard of care (in guidelines, as well) is to proceed with radical resection after complete clinical response, but recognized that patient and disease factors may alter this course of action. In particular, quality of life and rectal dysfunction may diminish (or permanent colostomy may be

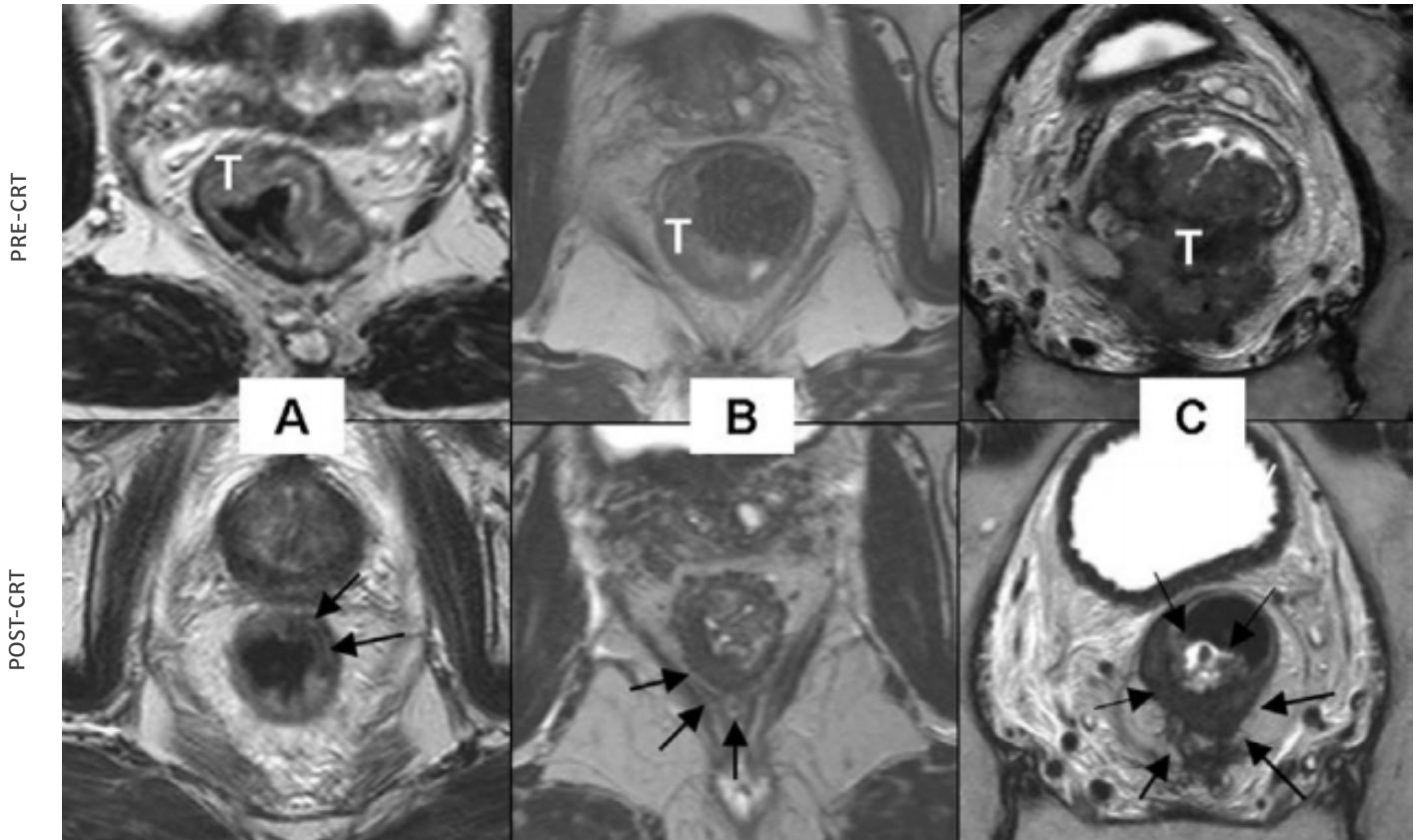
needed) with radical resection. Furthermore, some patients will be at high risk of significant perioperative complications. The rationale for non-operative management is that up to 20% of patients will have pathologic complete response, obviating the need for surgery. The challenge is identifying those patients prior to surgery. Criteria for complete response were discussed (endoscopic and radiologic). Evidence from enthusiastic groups around the world shows promising results, including those who required salvage surgery after recurrence was detected. However, the evidence was not compelling enough to recommend

routine non-operative management for all patients with complete clinical response. If non-operative management is undertaken, assessment for response should occur at 8 to 10 weeks after completion of radiation, followed by intensive endoscopic and radiologic followup. All such patients should be discussed in MDC.

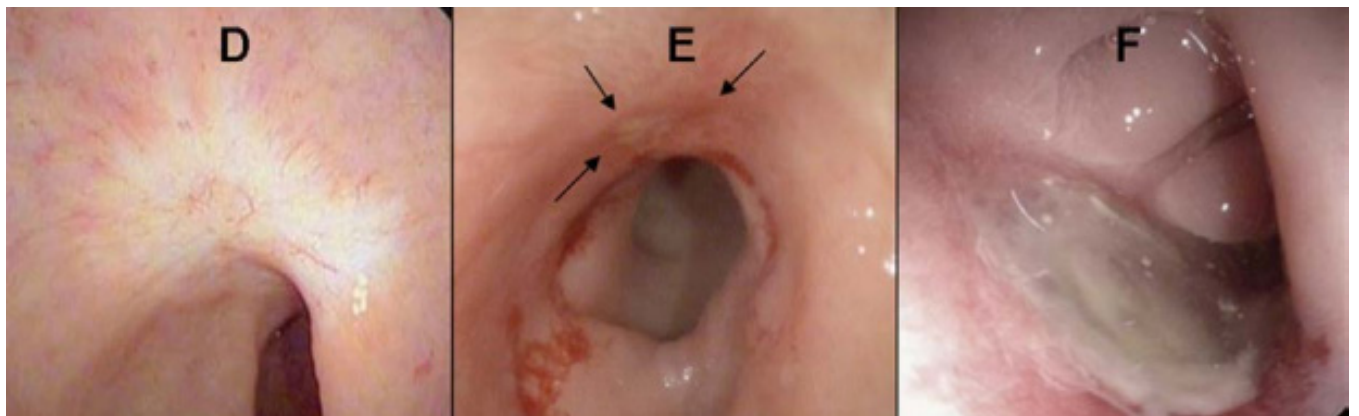
Techniques for Reconstruction

Dr. Phang then returned to the podium to review techniques for reconstruction after low anterior resection. The usual

T2W-MRI

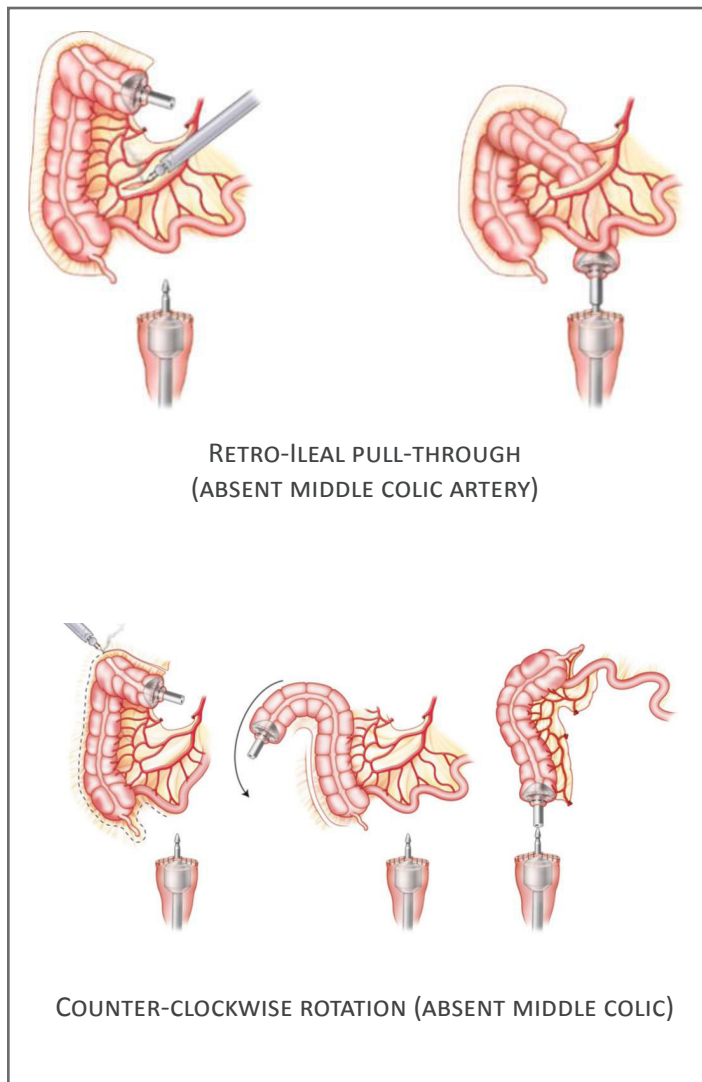


ENDOSCOPY



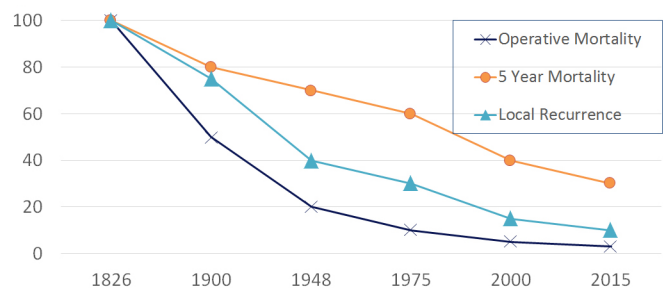
A. COMPLETE RESPONSE B. EQUIVOCAL RESPONSE C. RESIDUAL TUMOUR
D. SMOOTH SCAR E. SMALL ULCER F. RESIDUAL TUMOUR

principles of tension-free, well-vascularized anastomoses were reinforced, with the optimal situation being arterial pulsation at the proximal end prior to anastomosis. Reconstruction with a reservoir of some sort (colonic pouch or side-to-end anastomosis) are shown to have better function than straight anastomosis. Common techniques of splenic flexure mobilization, complete medialization of the root of the mesentery off the retroperitoneum were reviewed. Additional techniques to achieve length presented included dissection of the omentum from the transverse colon, of the distal transverse colon away from the stomach by entering the lesser sac, and of the left transverse mesentery off the pancreas. With these and further maneuvers, the marginal vessel should be maintained. If further length is needed, the next set of maneuvers include dividing the superior rectal artery more proximally, dividing the inferior mesenteric vein, and dividing the inferior mesenteric artery proximal to the left colic artery (after a trial of occlusion). Finally, the Deloyer techniques of bringing the transverse colon down to the pelvis with either a retro-ileal pull-through or counter clockwise rotation were shown. Pictures of all of these techniques are available online on the Network website.



TME

Dr. Carl Brown (colorectal surgeon, St. Paul's Hospital) then gave a historical review of the evolution of rectal cancer treatment and minimally invasive techniques in colon and rectal surgery, citing milestones such as the promotion of total mesorectal excision, neoadjuvant chemoradiation, population screening programs, local excision, laparoscopy, robotic techniques, and transanal total mesorectal excision (taTME). Recent trials could not demonstrate the non-inferiority of laparoscopic over open rectal cancer surgery. TaTME was discussed as a new, promising technique for particularly low cancers, but caution was recommended with respect to appropriate training, full disclosure to patients, and appropriate audit of results. He recommended that such new techniques be performed in high volume centres with multiple surgeons in attendance.



HISTORY OF RECTAL CANCER

Peritoneal Carcinomatosis

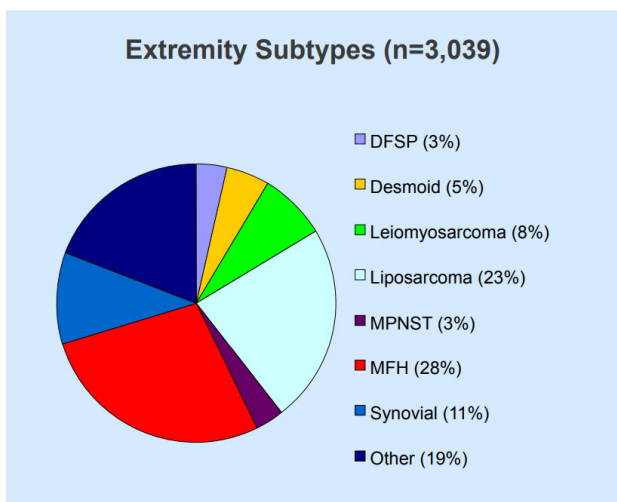
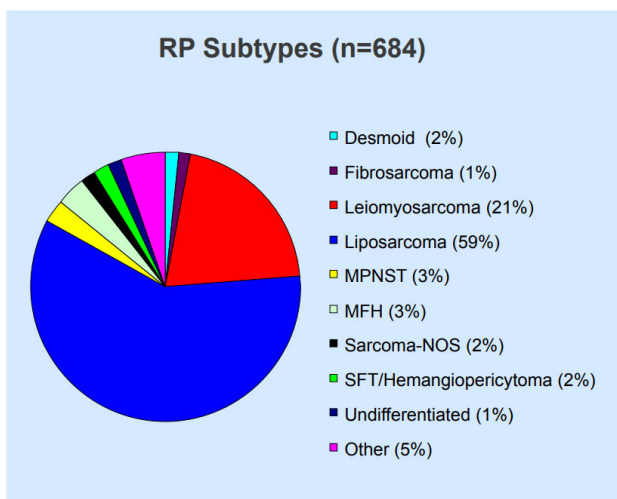
Dr. Trevor Hamilton (surgical oncologist from VGH) presented on peritoneal carcinomatosis from colorectal and appendiceal malignancies. Cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC) has been shown to improve survival in well-selected patients. CRS involves removing all macroscopic disease including removing involved organs and/or peritoneal surfaces. HIPEC is used to treat microscopic disease and is administered following complete cytoreduction. Patients are selected for treatment by a multidisciplinary review that involves assessing disease burden, biology, disease-free interval, chemotherapy response, and patient factors. Absolute contraindications for HIPEC include poor performance status, extensive co-morbidities, unresectable disease, extra-abdominal metastasis, and malignant small bowel obstruction. Relative contraindications include age >70, progression on systemic chemotherapy and bilateral hydronephrosis. If peritoneal carcinomatosis is found incidentally at surgery it is recommended that the surgeon facilitate the diagnosis (biopsy disease), delineate the extent of disease (if possible), delay resection of primary tumour unless perforated/obstructing/bleeding, and

minimize delays to chemo. If a mucocele of the appendix is encountered it is recommended that an appendectomy be performed if it is not ruptured (with care taken to avoid manipulation) and that if the mucocele is ruptured that appendectomy be performed as well as an assessment of the extent of nodularity and mucin in the abdomen, including biopsy of suspicious areas. A low-grade appendiceal mucinous neoplasm (LANM) does not require right-hemicolectomy as there is a low risk of lymph node metastasis.

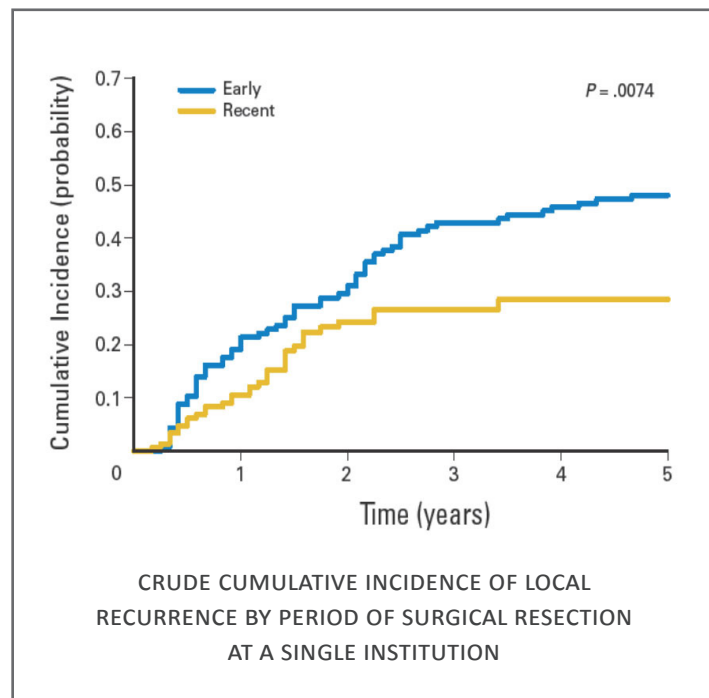
Retroperitoneal Sarcomas

Dr. Andrea MacNeill (surgical oncologist from VGH) reviewed retroperitoneal sarcomas (RPS). Local failure of RPS is the leading cause of disease-specific mortality. RPS has a worse prognosis than other types of soft tissue sarcomas, due to the difficulty in obtaining a widely negative microscopic resection margin in the retroperitoneum. Liberal multivisceral resection is associated with improved local recurrence rates and overall survival.

Retroperitoneal masses should be evaluated with imaging and percutaneous image-guided biopsy by an experienced radiologist at a sarcoma center. Preoperative tissue diagnosis is imperative for a number of reasons. Many retroperitoneal masses may not require surgery (benign pathologies, lymphoma, certain metastases). Confirmed retroperitoneal sarcomas should be considered for preoperative radiotherapy, and extent of resection is based on histologic subtype. Improved outcomes have been demonstrated at high volume centers and it is recommended that all RPS be reviewed by a multidisciplinary tumour board. If a retroperitoneal mass is encountered incidentally at laparotomy/laparoscopy/hernia repair, transperitoneal biopsy should be avoided and mesh placement is discouraged.



HISTOLOGIC SUBTYPES OF STS



ERAS

Dr. Ahmer Karimuddin (colorectal surgeon, St. Paul's Hospital), a provincial leader in Enhanced Recovery after Surgery programs, then presented evidence regarding complications after surgery and strategies to avoid them to improve recovery in the immediate postoperative recovery period. The incidence rate of important complications such as surgical site infection, anastomotic leak, and ileus was reviewed, along with the enormous patient, surgeon, and societal cost involved, hence providing the impetus for reducing them. It was quite enlightening that even years out from surgery, the impact of complications can cause reduced quality of life. The American National Surgical Quality Improvement Project (NSQIP) was reviewed as a systematic approach to reducing complications, and attendees were encouraged to learn more if they didn't already have the

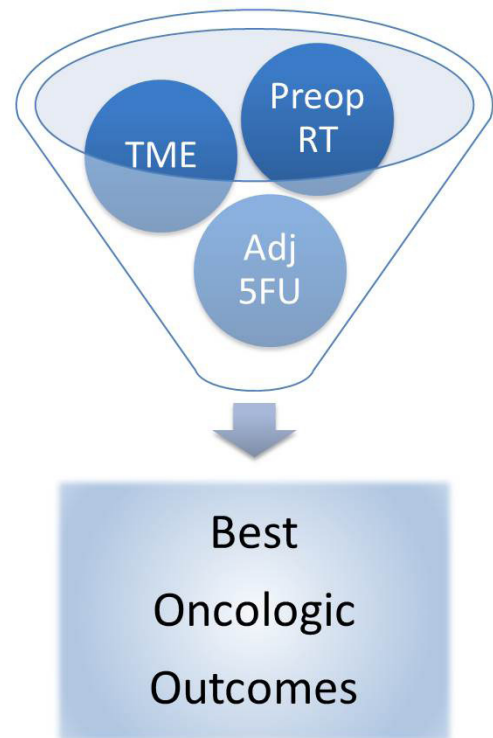
program at their hospitals, understanding that the cost is substantial (\$150,000 per year). He reviewed systematic and successful efforts at St. Paul's hospital to reduce urinary tract and surgical site infections identified as problematic by NSQIP. It was recommended that for patients undergoing bowel resection, mechanical and oral antibiotic bowel prep, chlorhexidine-based skin washing and prep, wound protectors, and negative pressure dressings be employed.

With regards to venous thromboembolic disease, it was demonstrated that many VTE episodes occur after discharge, so for patients having surgery for colorectal cancer, 28 days of postoperative anticoagulation prophylaxis is recommended. He then reviewed ileus, and reviewed several strategies to combat this problem, including MIS technique, early feeding, gum chewing, goal-directed fluid therapy, and opioid antagonists. Goal-directed fluid therapy appears to show the most promising results, but the problem has not been solved completely. For length of stay, laparoscopy has been shown to be of great benefit, though complication rates are not appreciably lower overall. With regards to anastomotic leaks, strategies of oral and mechanical bowel prep and low threshold for ileostomy diversion for low anastomoses have been shown to reduce the rate, or the sequelae thereof. The use of indocyanine green fluoroscopy is a possible technique to identify at-risk anastomoses, but trials are underway. In conclusion, Dr. Karimuddin reviewed some tips for successful ERAS implementation.

Future of Rectal Cancer Care

Dr. Raval then concluded the day with an overview of what is still to come in rectal cancer treatment. With so many new options in surgical technique, radiation method,

chemotherapeutic agents, and so on, many more strategies can be envisioned to give best oncologic outcomes while reducing toxicity due to therapy and maintaining quality of life. Trials exploring highly tailored treatments for rectal cancer patients utilizing a multidisciplinary approach are currently underway. However, patients must have full disclosure of the consequences of experimental techniques and should only undergo these in the context of a well-organized study.



COMPARE ALL OTHER OPTIONS TO THIS STANDARD!



BREAST CANCER MANAGEMENT GUIDELINES

The Network's Breast Cancer Surgical Tumour Group undertook a review of the current literature on the diagnosis and surgical management of breast cancer, to update the management guidelines on the BC Cancer website. These recommendations are now available online at: www.bccancer.bc.ca/health-professionals/clinical-resources/cancer-management-guidelines

BCMJ BREAST CANCER THEME ISSUE

To help clinicians address some of the challenges of breast cancer care, the Breast Cancer Surgical Tumour Group developed a two-part theme issue for the BCMJ, focusing on issues in the diagnosis and treatment of breast cancer. These articles have now been published and are available online:

- **Part 1** (Jan/Feb 2018 issue) includes articles on breast cancer screening, evaluation of breast health concerns and diagnosis of breast cancer, coordination of radiological & clinical care for breast cancer diagnosis, and hereditary breast cancer. www.bcmj.org/issue/januaryfebruary-2018
- **Part 2** (March 2018 issue) covers current surgical management, radiotherapy, neoadjuvant chemotherapy, and survivorship care. www.bcmj.org/issue/march-2018

CANADIAN PARTNERSHIP AGAINST CANCER - PAN-CANADIAN SURGERY STANDARDS

In November 2015, the Canadian Partnership Against Cancer released a report, *Approaches to High-Risk, Resource Intensive Cancer Surgical Care in Canada*, which highlighted tremendous variability in how each province delivers cancer care, resulting in disparities in patient outcomes. Based on these findings, the Partnership identified that deliberate approaches were needed to improve the organization of complex cancer care surgeries to optimize patient outcomes.

By developing surgery standards of practice in Canada, the Partnership aims to provide high-level guidance and discussion on the foundational resources and requirements needed to improve surgical cancer care and patient outcomes.

There are three overarching themes:

1. Surgeon Criteria - technical skills and knowledge base from the decision of operability to the delivery of surgery, including requisite training & competency for practice, and surgery & management.
2. Practice Settings - equipment, physical setting and human resources required for the optimal delivery of services.
3. Quality Processes - data-driven approaches, monitoring & evaluation, quality improvement processes, and preventive programs that should be in place to improve service delivery and patient outcomes, including multidisciplinary discussion and evaluation of cases.

Two new reports have just been released, *Pan-Canadian Standards for Thoracic Surgery* and *Pan-Canadian Standards for Gynecologic Oncology*, providing the country's first evidence-based, comprehensive national standards for thoracic and gynecologic oncology surgeries that can be adapted to local health systems. The development of these standards was informed by environmental scans, a literature review and expert consensus. Both reports emphasize a number of key areas, including human resource requirements to ensure timely access to care, the availability of required equipment and services, quality assurance processes and measurement capabilities.

Surgery is the optimal curative option for lung cancer in early stage disease, with a five-year survival rate close to 70% for surgically resected stage I and II disease.

The new standards can be viewed at: www.partnershipagainstcancer.ca/news/news-events/gynecologic-oncology-thoracic-surgery-standards/. The recommendations were developed at the pan-Canadian level and will need to be adapted and contextualized according to the local health system characteristics. The Partnership is now in the process of developing national standards for rectal and breast cancer surgery.

SURGEON NETWORK NEWS



Research & Outcomes Evaluation Committee (ROEC) – New Chair

With the recent appointment of Dr. Carl Brown as Provincial Lead, BC Cancer Surgery, Dr. Chris Baliski has stepped down as Network Chair. We thank Dr. Baliski for his service in leading the Network over the past six years and for his dedication towards improving cancer surgery care in BC. Dr. Baliski will continue to work with the Network as the new interim ROEC Chair. As an active member of this committee for several years, Dr. Baliski brings his wealth of experience and commitment to this role.

Fall Update 2018

The annual Fall Update will be held Saturday October 13, 2018 at the Four Seasons in downtown Vancouver. The program agenda is in the early stages of development but topics this year will include the management of thyroid, parathyroid and head & neck cancers. Online registration for this accredited one-day event will begin later this spring. Please check our website for more information (www.bccancer.bc.ca/health-professionals/networks/surgeon-network/fall-update).

New Logo

With the recent rebranding of BC Cancer, the Network has updated its name and logo to conform to the new look and standards. Going forward the Surgical Oncology Network will be known as the BC Cancer Surgeon Network.

SURGEON NETWORK NEWSLETTER

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