BC Cancer Agency
CARE + RESEARCH
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Surgical Oncology Network Newsletter

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Surgical Oncology Network

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In This Issue...

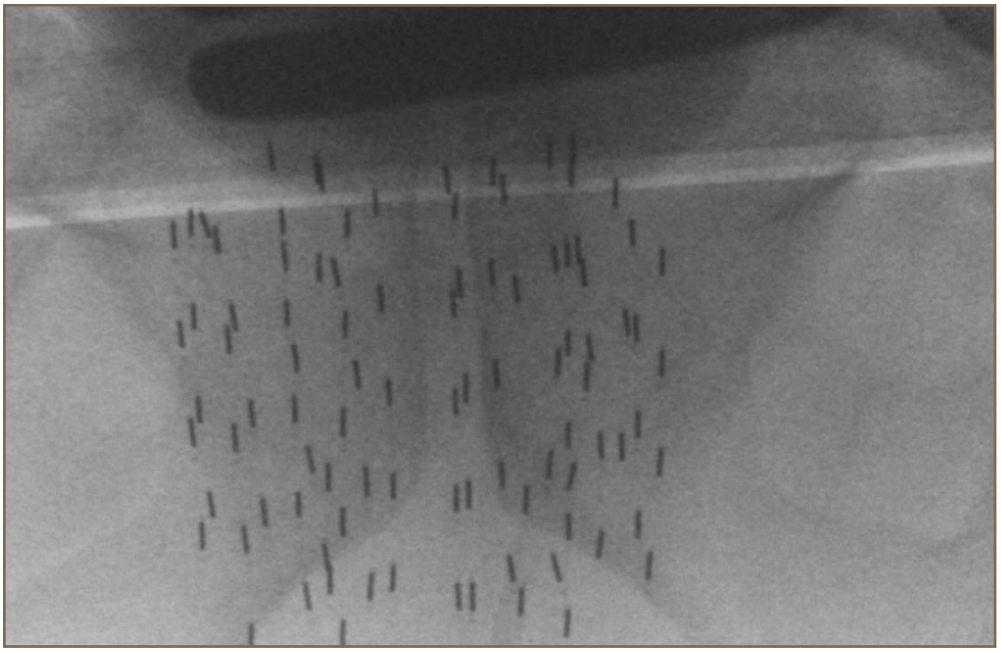
MARK YOUR CALENDARS!

SON FALL UPDATE ON COLORECTAL CANCERS

October 14, 2017
Four Seasons Hotel
Vancouver

BRACHYTHERAPY

ANTERIOR RECTAL WALL BIOPSY AND VIGOROUS APC ARE ASSOCIATED WITH RECTO-URETHRAL FISTULAS AFTER PROSTATE BRACHYTHERAPY



I-125 permanent prostate implant

Dr. Mira Keyes
Clinical Professor
Radiation Oncology
Department of Surgery UBC

Brachytherapy refers to the placement of radioactive sources directly into cancerous tissue. As radiation dose gradients with brachytherapy are steep, the tumor receives a very high dose of radiation, while the surrounding normal tissues are largely spared; this offers the potential of a high cure rate and minimal toxicity to adjacent organs. Brachytherapy is the essential radiation modality used in many cancers including, prostate, cervix, lung, esophagus, eye, skin, and recently breast.

The "modern" era of LDR (Low Dose Rate) or seed prostate brachytherapy began in the 1980s with the development of trans- rectal US to plan and guide the placement of radioactive sources within the prostate. Prostate brachytherapy may be used either as monotherapy or combined with modest doses of external beam, for patients with higher risk disease. Patients treated with any form of brachytherapy had not only superior long-term PSA outcome but also showed remarkable durability of the results with a long follow-up, which may lead to cure in many patients[1,2]. BCCA Prostate Brachytherapy program is one of the largest in the world, with just over 5800 patinas implanted since 1998. We maintain a large database on all

Continued from Page 1

implanted patients including the PSA outcomes and patient and physician reported long term toxicity[3].

While the long term side effect profile is very favourable, 1 in 300- 500 patients may develop rectal ulcer or fistula, a rare but significant complication. Reported rates of recto-prostatic fistulas after seed brachytherapy range from 0.2% to 1.0%.

Fistulas between the urethra and rectum are formed because of breakdown of irradiated tissue. This allows for spontaneous urine leakage into the rectum and contamination of the urinary tract by fecal bacteria. While rectal fistula are also seen after radical prostatectomy (0.5%), radiation induced fistula are more challenging to treat. Even with rectal and urinary diversion, they heal in only a minority of cases.

Rectal ulcers and fistulas especially, entail significant morbidity, lifestyle effects, and financial cost to the patient and medical system. Literature describes IBD, high rectal radiation doses, and surgical interventions to be associated with a higher incidence rectal fistulas[4]; however, they also occur in a typically unpredictable manner. In an effort to reduce the incidence of this serious complication, we describe the BCCA experience and outline the incidence and associated risk factors[5].

We had reviewed the records of 4,690 patients in our Provincial Brachytherapy Database treated between July 1998 and May 2013. At a median follow-up of 53 months 21 cases were identified, including 15 rectal ulcers (6 progressed to fistulas between 1 and 17 months later), and 6 cases of de-novo fistulas (median time from brachytherapy to fistula was 33 months), with overall 9 rectal ulcers (0.19%) and 12 cases of fistula (0.26%)[5].

Radiation dose to anterior rectal wall is usually minimal with brachytherapy alone, and higher with combination of EBRT and brachytherapy boost. Patients may experience mild transient proctitis with urgency or frequency (<20%) or occasional bleeding (<7%). Symptoms are self-limiting in most of the patients and require no intervention[6]. Less than 5 % may have more significant rectal bleeding requiring Argon Plasma Coagulation.

Bleeding is usually associated with radiation change and telangiectasia on the anterior rectal wall. In virtually all organ systems which demonstrate radiation damage, the hallmark of radiation injury includes vascular changes with hypoxia, depletion of the parenchymal and stem cells, and development of fibrosis. As such, any further injury to the tissue including medical procedures or interventions may trigger the cascade of hypoxic tissue events ultimately leading to tissue necrosis.

In our cohort, out of 12 patients with fistulas, 4 had preceding rectal biopsies, 5 had urinary interventions (TURP, TUIP, debridement of strictures), and 3 had Argon Plasma Coagulation of the rectum for hematochezia, resulting in 83% patients with fistulas received some form of urological or rectal intervention. No fistulas healed without surgical management. Two patients with fistulas died. In addition we review 238 patients with grade 2-3 rectal toxicity. Only 16 of those (6.7%) received APC for rectal bleeding, 4 (1.7%) had rectal biopsies and 4 (1.7%) were treated with urological interventions[5].

While high intrinsic normal tissue radiosensitivity in a patient could also explain some formation of ulcers and fistulas, reducing the radiation doses to the rectum with careful surgical technique during the brachytherapy procedure is a paramount. However, we also find that post-brachytherapy interventions such as rectal biopsy, argon coagulation and urinary intervention may significantly increase the risk of fistulas.

We advise all patients that if a sigmoidoscopy or colonoscopy is performed, on no account should biopsies of the anterior rectum adjacent to the prostate be performed, as this can cause permanent fistula formation.

In summary, vigorous APC for rectal bleeding and biopsies of the anterior rectal wall are associated with very high incidence of rectal ulcers and fistulas in patients treated with prostate brachytherapy and must be avoided if possible.

References

(1) Morris WJ, Keyes M, Spadinger I, Kwan W, Liu M, McKenzie M, et al. Population-based 10-year oncologic outcomes after low-dose-rate brachytherapy for low-risk and intermediate-risk prostate cancer. Cancer 2013 15 Apr 2013;119(8):1537-1546.

(2) Grimm PD, Billiet I, Bostwick DG, Dicker A. P., Frank SJ, Immerzeel J, et al. Comparative analysis of prostate-specific antigen free survival outcomes for patients with low, intermediate and high risk prostate cancer treatment by radical therapy. Results from the Prostate Cancer Results Study Group. BJU Int 2012;109(supp 1):22-29.

(3) Keyes M, Morris WJ, Spadinger I, Araujo C, Cheung A, Chng N, et al. Radiation oncology and medical physicists quality assurance in British Columbia Cancer Agency Provincial Prostate Brachytherapy Program. Brachytherapy 2013 Jul-Aug;12(4):343-355.

(4) Pai HH, Keyes M, Morris WJ, Christie J. Toxicity after (125) I prostate brachytherapy in patients with inflammatory bowel disease. Brachytherapy 2013 Mar-Apr;12(2):126-133.

(5) Leong N, Pai HH, Morris WJ, Keyes M, Pickles T, Tyldesley S, et al. Rectal Ulcers and Rectoprostatic Fistulas after (125)I Low Dose Rate Prostate Brachytherapy. J Urol 2016 Jun;195(6):1811-1816.

(6) Keyes M, Spadinger I, Liu M, Pickles T, Pai H, Hayden A, et al. Rectal toxicity and rectal dosimetry in low-dose-rate iodine-125 permanent prostate implants: A long-term study in 1006 patients. Brachytherapy 2011 Jul 13.

POSITION STATEMENT FROM THE SON BREAST TUMOUR GROUP: AXILLARY ULTRASOUND IN BREAST CANCER

BY DR. RONA CHEIFETZ

With the introduction of sentinel node biopsy for axillary staging in breast cancer patients, preoperative axillary ultrasound became popular as a means of identifying patients with axillary metastases that were non-palpable. The intent was to identify patients who, based on documented axillary metastases warranted proceeding direct to axillary node dissection. While not a mandatory staging procedure prior to surgery, axillary ultrasound could potentially avoid a positive sentinel node biopsy and the subsequent need for a second procedure to clear the axilla. As such the standard of care for US detected nodal disease, currently, is an ALND.

With the publication of the Z11 trial, however, completion axillary node dissection is no longer being recommended routinely for patients with two or fewer positive nodes. Patients having axillary US for staging and having an FNA confirmed nodal metastases, however, are routinely being offered ALND. Had the US not been done, in the absence of palpable disease, these patients would have proceeded to sentinel node biopsy and some of these patients would have two or fewer positive nodes and not required ALND. That is, the axillary US is resulting in surgical overtreatment for some patients. The extent of this problem has not yet been established in the breast cancer literature but the concern is being raised widely. Some radiology centres have stopped routine axillary US imaging as part of their breast ultrasound for cancer patients.

In order to best address this area of uncertainty, until such time adequate data is generated, the following is recommended:

- Preoperative axillary US is not a mandatory component of breast cancer staging.
- If an axillary US is not done, or is done and is negative, patients having SLNB should be advised that there is potential that they may require a second operation for ALND and this discussion should be documented.
- If an axillary US is done and an FNA positive node identified, the option of neoadjuvant treatment should be considered particularly if there is a large volume of disease seen, or for patients with large or high grade or triple negative tumours. If there appears to be limited disease in the axilla (only 1or 2 abnormal nodes by ultrasonographic criteria), while it is not standard care, consideration may be given to proceeding to a sentinel node biopsy, but only if some form of nodal labelling is undertaken to ensure that the FNA positive node is retrieved at the time of the SLNB. This may involve clip placement, ink staining, radioseed localization or wire localization of the node.. This recommendation is intended to address the potential that this pathologic node may not uptake dye or technetium. It is critical that the patient be advised that a full ALND may be required as a second procedure dependent on the final pathology result and that at this time this approach is not standard of care. This discussion should be documented.

SON TRAVEL AWARDS 2017

Dr. Dean Percy
American Society of Breast Surgeons Annual Meeting, Las Vegas, April 28 - 30, 2017
Number of nodes in sentinel lymph node biopsy for breast cancer: are surgeons still biased?

Dr. Lily Proctor
Gynecologic Oncologists of Canada Annual Meeting, Ottawa, June 2017
DNA Ploidy Correlates with the ProMisE Molecular Groups of Endometrial Cancer

Dr. Emily Mackay
American Society of Breast Surgeons Annual Meeting in Las Vegas, NV, April 26-30, 2017
Neoadjuvant therapy and nodal pathologic complete response affects node counts at axillary node dissection in breast cancer

SURGICAL ONCOLOGY NETWORK NEWSLETTER

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VISIT THE SURGICAL ONCOLOGY WEBSITE:
www.bccancer.bc.ca/health-professionals/networks/surgical-oncology-network

2017 SON Fall Update

Colorectal Cancer

Saturday October 14 - Vancouver, BC

PROGRAM AGENDA

BC Surgical Oncology Network

BC Cancer Agency
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Time	Topic	Speaker
7:30 - 8:00 am	*Registration and Continental Breakfast*	
8:00 - 8:05 am	Welcome and Introduction	Dr. Manoj Raval
8:05 - 8:30 am	Colorectal cancer – No longer an over-50 problem?	TBD
8:30 - 9:15 am	The big, awkward, flat polyp that can't be removed with a snare – What are my options? • The case for endoscopic mucosal/submucosal resection • The case for surgery – Segmental resection and transanal endoscopic microsurgery	Dr. Eric Lam Dr. Terry Phang
9:15 - 9:45 am	The role of MRI/ERUS and the multidisciplinary conference in rectal cancer management	Dr. Donald Buie
9:45 - 10:15 am	Question and Answer Session	Dr. Carl Brown, Dr. Don Buie, Dr. Eric Lam, Dr. Cailan McPherson, Dr. Terry Phang, Dr. Magda Recsky Moderator: Dr. Manoj Raval
10:15 - 10:30 am	*Coffee Break*	
10:30 - 11:00 am	The rectal cancer that disappears after neoadjuvant chemoradiation – Should I operate?	Dr. Donald Buie
11:00 - 12:00 pm	Techniques for rectal cancer surgery • It's too short! How to gain length for low rectal anastomosis • What's the best type of anastomosis? • Laparoscopic vs. open TME - Results of recent trials • Transanal TME: What do I need to know about this?	Dr. Terry Phang Dr. Carl Brown
12:00 - 12:30 am	Question and Answer Session	Dr. Carl Brown, Dr. Don Buie, Dr. Cailan McPherson, Dr. Terry Phang, Dr. Magda Recsky Moderator: Dr. Manoj Raval
12:30 - 1:30 pm	*Lunch*	
1:30 - 2:00 pm	Peritoneal carcinomatosis	Dr. Trevor Hamilton
2:00 - 2:30 pm	Retroperitoneal masses	Dr. Andrea MacNeill
2:30 - 3:00 pm	Question and Answer Session	Dr. Trevor Hamilton, Dr. Andrea MacNeill
3:00 - 3:15 pm	*Coffee Break*	
3:15 - 4:15 pm	Update on ERAS in colorectal cancer surgery – Evidence-based practical advice • Ileus prevention and management • Low molecular weight heparin in colorectal cancer • Surgical site infection prevention	Dr. Ahmer Karimuddin
4:15 - 4:30 pm	Putting it all together - Where is rectal cancer treatment going?	Dr. Manoj Raval
4:30 - 4:45 pm	Question and Answer Session	Dr. Carl Brown, Dr. Don Buie, Dr. Ahmer Karimuddin, Dr. Eric Lam, Dr. Cailan McPherson, Dr. Terry Phang, Dr. Magda Recsky Moderator: Dr. Manoj Raval
4:45 - 5:00 pm	Course Evaluation / Wrap Up	Dr. Elaine McKevitt

This course has been reviewed and approved by the UBC Division of Continuing Professional Development. This course is an Accredited Group Learning Activity eligible for up to 7.5 MOC Section 1 credits as defined by the Maintenance of Certification program of the Royal College of Physicians and Surgeons of Canada. Each physician should claim only those credits he/she actually spent in the activity.

For more information or to register contact Wade Stow, SON Coordinator, at SON@bccancer.bc.ca, tel. 604-877-6000 ext. 673269 or visit our website, http://www.bccancer.bc.ca/health-professionals/networks/surgical-oncology-network