Informed Prostate Cancer Support Group Inc.
"A 501 C 3 CORPORATION ID # 54-2141691"

JUNE 2021 NEWSLETTER

P.O. Box 420142 San Diego, CA 92142
Phone: 619-890-8447 Web: http://ipcsg.org

Friday, June 18, 2021

Volume 14 Issue 06

- **Saturday, June 19, 2021 IPCSG - Live-Stream Event, 10:00am PT**
  Dr. Jeremie Calais, MD, MSc presents Theranostics

- Dr. Jeremie Calais is Assistant Professor and Director of the Clinical Research Program of the Ahmanson Translational Theranostics Division of the Department of Molecular and Medical Pharmacology at UCLA. Theranostics is the combination of tumor-specific targeted radionuclide imaging and therapy. His work focuses on improving the outcomes of cancer patients by translating and applying novel diagnostic and therapeutic approaches using PET/CT imaging for cancer phenotyping, radiation therapy planning and therapy response assessment. He is now one of the leading prostate cancer imaging and theranostics researchers.
- Due to COVID-19, no in-person meetings at the Sanford Burnham Prebys Medical Discovery Institute will take place until further notice. This meeting will be live-streamed and will also be available on DVD.
- **For further Reading: https://ipcsg.blogspot.com/**
- **For Comments, Ideas and Questions,** email to Newsletter@ipcsg.org

Prostate Cancer Management and Program Updates
May 2021 IPCSG Presentation - Summary by Bill Lewis

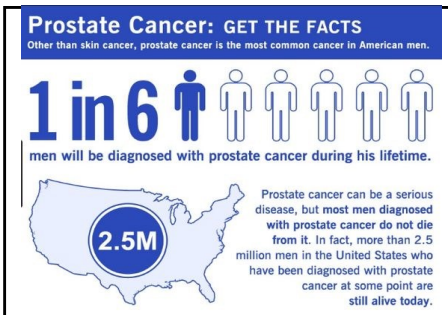
BERNADETTE GREENWOOD – MSc., PG CERT., RT(R)(MR)(ARRT, CHIEF RESEARCH OFFICER AT HALODX. CLINICAL INSTRUCTOR, DEPARTMENT OF INTERNAL MEDICINE, UC RIVERSIDE SCHOOL OF MEDICINE. PHD CANDIDATE AT RADBAUDUMC. EMAIL: Bernadette@halodx.com

Bernadette has an MS in imaging sciences; working on a Ph.D. in tumor immunology imaging. Many awards and publications. She founded a new international network of experts in laser therapy. She promotes for patient care.

1. **The history of biopsy strategies**: As breast MRI's (magnetic resonance imaging scans) have long complemented mammograms and ultrasonic scans, MRI's of the prostate now complement PSA testing, digital rectal exams and TRUS (trans-rectal ultrasound) scans. Breast interventions according to ACR (American College of Radiology) practice guidelines involve a targeted biopsy under MRI, followed as appropriate by mastectomy or lumpectomy with possible focal treatment. Prostate intervention: It is now recommended by the American Urologic Association (since Oct. 2019) to do MRI before biopsy in cases of high PSA. It is appropriate for most men to start with a targeted biopsy under MRI guidance (in-bore MRI guidance was developed in 2009) or a MRI/US fusion biopsy (less ideal, but can be done in a urologist's office, overlaying a prior MRI scan on the imaging obtained by ultrasonics during the biopsy; which was developed later). After the targeted biopsy, the patient has options of various types of focal therapy vs. whole-gland treatment (i.e., radical prostatectomy, various kinds of radiation or ADT (androgen deprivation, anti-testosterone hormone therapy)).

The first biopsies were done in the 1920's via an incision in the perineum (the skin between the scrotum and

(Continued on page 3)



Organization

a 501c3 non-profit organization - all positions are performed gratis

IPCSG

Officers

Bill Lewis President

Additional Directors

Gene Van Vleet

Aaron Lamb

Bill Manning

Honorary Directors

Dr. Dick Gilbert

Judge Robert Coates

Past President –Lyle Larosh

Aaron Lamb, ... Facilitator
Bill Manning, ...Videographer
John Tassi, ...Webmaster
Bill Bailey, ...Librarian
Jim Kilduff, ...Greeter
Aaron Lamb, ...Meeting Set-up
Stephen Pendergast ..... Editor

NEWSLETTER
Table of Contents

PROSTATE CANCER—*2 WORDS, NOT A SENTENCE*

What We Are About

Our Group offers the complete spectrum of information on prevention and treatment. We provide a forum where you can get all your questions answered in one place by men that have lived through the experience. Prostate cancer is very personal. Our goal is to make you more aware of your options before you begin a treatment that has serious side effects that were not properly explained. Impotence, incontinence, and a high rate of recurrence are very common side effects and may be for life. Men who are newly diagnosed with PCa are often overwhelmed by the frightening magnitude of their condition. Networking with our members will help identify what options are best suited for your life style.

Meeting Video DVD's

DVD's of our meetings are available for purchase on our website at https://ipcsg.org/purchase-dvds and are generally available by the next meeting date.

Join the IPCSG TEAM

If you consider the IPCSG to be valuable in your cancer journey, realize that we need people to step up and HELP. Call **President** Bill Lewis @ (619) 591-8670 ; or **Director** Gene Van Vleet @ 619-890-8447.

From the Editor

Due to COVID-19, no in-person meetings will be held until further notice. We will continue to post and distribute the newsletter in the interim. Our speaker this month will be broadcast via the IPCSG website at https://ipcsg.org/live-stream and can be watched by scrolling down and clicking on the "WATCH THE PRESENTATION" button. The broadcast will begin approximately 10 minutes before to the listed start time.

In this issue:

First, we have Bill Lewis's great summary of Bernadette Greenwoods talk. Then, sadly, a tribute to Lyle Larosh, our founder and past president who passed recently.

Articles of Interest

- Invitae's Genetic Testing
- Talking to People About Your Prostate Cancer Diagnosis
- Things People With Prostate Cancer Wish You Knew
- Androgen deprivation therapy and cognitive decline—associations with brain connectomes, endocrine status, and risk genotypes
- ProCanBio: a database of manually curated biomarkers for Prostate Cancer
- Brief, intense radiation and hormone therapy for very high-risk prostate cancer
- Targeted Radiotherapy Might Help Men Battling Advanced Prostate Cancer
- Twenty-year trends in prostate cancer stage and grade migration in a large contemporary german radical prostatectomy cohort
- Sexual function outcomes of radiation and androgen deprivation therapy for localized prostate cancer in men with good baseline function
- Prevalence and clinical impact of tumor BRCA1 and BRCA2 mutations
- New Standard for Metastatic Castration-Sensitive Prostate Cancer?
- Long-term overall survival of radical prostatectomy patients is often superior to the general population
- Phase II study of stereotactic body radiotherapy with hydrogel spacer for pros-

(Continued from page 1)

the rectum), feeling around for the prostate, to take samples! Improvements came with trans-rectal ultrasound guidance (1960's), the PSA test (1986) and "systematic" biopsy grids (1989). Even with subsequent development of "saturation" biopsies using very many needles, they still miss significant tumors, especially since the depth of needle penetration is limited. Up through 2009, the NCCN (national comprehensive cancer care) guidelines still focused on repeating biopsies as often as annually. MRI guidance for biopsies was finally acknowledged/recognized in 2012, with standardization (PI-RADS guidelines) now worked out. Note that whereas some complain about the cost of MRI scans, the pathology reading on biopsy samples costs $2-300 each, so that total cost exceeds the MRI cost.

A recent article argues "PSA density is superior than PSA and Gleason score for adverse pathological features prediction in patients with clinically localized prostate cancer." So men should be aware of their prostate volume, and calculate PSA density (PSA value divided by the prostate volume in cc).

In 2016, the NCCN updated their guidelines for prostate cancer early detection, recommending "mpMRI (multiparametric MRI; usually shortened to just "MRI") followed by lesion targeting may maximize the detection of higher risk disease, and limit the detection of lower risk disease." In October 2019, the American Urologic Association agreed with that philosophy, as noted above. Studies by the group Bernadette is in, and by a group at Yale found a "negative predictive value" for mpMRI of 91-96%, meaning a very high percentage of men with significant tumors were correctly identified.

Some people argue that an MRI machine needs to have a "3T" magnet (magnetic field strength in Tesla units) for best imaging. In the US, 71% of machines have 1.5T magnets, and 19% have lower field strength. Only 10% have 3T magnets. But Bernadette argues that equal or better images can be obtained with a 1.5T machine, if the operator is a credentialed, experienced mpMRI technologist, the software is modern / state-of-the-art, a high channel-count surface coil is used, the patient is properly prepared (fasting, using glucagon injection to decrease bowel motion, etc.), and the interpreter of the scans is an experienced radiologist. Slides were shown with clearly better results using 1.5T vs. 3T.

Apparent diffusion coefficient values provide a good (though not perfect) indication of disease aggressiveness. Examples were shown of a Gleason 3+3 case (ADC= 1240), a Gleason 3+4 case (ADC=990), and a Gleason 4+5 case (ADC=660). In the associated images, the suspected tumor area was darker (less diffusion) the lower the ADC value. The area of lowest ADC value is the spot to target in the subsequent biopsy, and moving the cursor on the computer-generated image shows that often the best spot to target is quite small. A few pixels away, the ADC value may be a lot higher. So in-bore biopsy (in the MRI machine) or fusion biopsy (overlaying the prior MRI image on ultrasound imaging) is needed for accurate targeting of the suspicious area.

Ordinary TRUS biopsy needles only reach about 1.8 cm into the prostate. So the needles may not reach a significant tumor, may instead find a clinically insignificant tumor, or may only catch the edge of a significant tumor, where the cells show less aggressiveness than in the center. In 2010 study, it was shown that for Gleason >=7 tumors, MRI-guided biopsy found well over 90% of the tumors, but 10-core TRUS biopsy found only about half. With additional evidence mounting up over the years, we say good-bye to the days of TRUS biopsy.

What is Gleason score? It is the sum of two Gleason "grades," which are numerical rankings of how abnormal the cells in a biopsy sample are. Grades 1 & 2 are near-normal cells; relatively organized and benign-looking. 3 is somewhat abnormal, and a "cartoon" drawing of cells showing a certain degree of abnormality in shape and clustering is used as a standard for grading. Grades 4 and 5 are stepwise more abnormal – very much different from normal prostate cells – disorganized and scary-looking. The first number used in the sum that makes up the Gleason score is the grade of the most prevalent pattern of cells in the sample. If a (smaller) group of cells show a different pattern, that grade is added to the first number. So 3+3 means all the cells in the sample are "somewhat" abnormal, and 3+4 means that there are some cells of greater abnormality (at the "4" abnormality level). A Gleason score of 4+3 means that the predominant pattern is of the 4 grade, but some cells of grade 3 are also present. Although 3+4 and 4+3 both add up to a Gleason score of 7, the latter patient is considered to have a more aggressive/dangerous cancer, consistent with the greater prevalence of grade 4 cells.

When patients are seen by Bernadette and her urologist partner, they are always referred to the NCCN (National Comprehensive Cancer Network) guidelines, which lay out the various potential cancer treatments, from

(Continued on page 4)

(Continued from page 3)

active surveillance to surgery, radiation, cryo treatment, high-intensity focused ultrasound, hormone therapy, immunotherapy, chemotherapy, radiopharmaceuticals, clinical trials, and "understudied" treatments. Thus the patients are able to be fully informed before deciding what treatment approach they want to choose.

2. Laser Focal Therapy. A clinical trial (NCT02243033) is underway of the laser focal therapy procedure that Bernadette and colleagues developed. 201 men are enrolled in the trial, and will be followed for 20 years. The protocol was approved by an outside agency, the WIRB Copernicus group (Western Institutional Review Board). Analytics are done by a 3rd party. The procedure is now offered commercially, for others who may choose the treatment.

The procedure involves the same equipment used for trans-rectal in-bore biopsies, but inserting a water-cooled 980 nm diode laser fiber operated at just under 15-Watt, instead of a biopsy needle. The laser workstation is integrated with the MRI scanning machine (at 1.5T) via Ethernet, and the software provides real-time responsiveness, including temperature measurement using the MRI, and safety control features (to protect the neurovascular bundles -- which control erection; the external urethral sphincter; and the rectal wall). The equipment has been cleared by the FDA. It was initially used in the brains of children to control epilepsy, so Bernadette considered it safe enough to use in prostate treatment. Initial work was done with colleagues at MDAnderson on phantoms (inert objects that can be imaged), and later, dogs and pigs. She then brought the equipment to Desert Medical Imaging (now Halo Diagnostics), and treated the first patient in May 2010.

A major advantage of laser focal therapy over other types of focal therapy such as cryotherapy (freezing), HIFU (high-intensity focused ultrasound), electroporation (nanoknife) and RF (radiofrequency ablation), is that the treatment zone can be controlled very precisely, with a very crisp boundary (about a millimeter) separating destroyed tissue from living tissue. The boundary can be 5-10 mm in cryo, HIFU or RF treatments.

A "test dose" is first given at 4W power, which heats tissue at the laser tip to about 100 degrees F – just to verify where the tip is. Then the treatment dose is just under 15W for 90 seconds.

Patients include "treatment naïve" patients (no prior treatment for their cancer), and "salvage" patients (after surgery or radiation, i.e., Xray, proton or brachytherapy has not eliminated the cancer entirely). Most are 60-70 years old. Most of the treatment naïve patients have Gleason 7 tumors in the peripheral zone. Salvage patients may have tumors anywhere in/around the prostate, including the various zones, the seminal vesicles, the bladder wall, etc., and may have any Gleason score. The group also does "large volume" Gleason 3+3 tumors, that are MRI visible. The PSA typically declines about 40%. Sexual function, urologic function and emotional well-being, measured at 12 months, all show no significant decline in either group of patients. That is, <u>laser focal therapy gives none of the morbidity (side effects) associated with either surgery or radiation</u>!

The clinically significant cancer recurrence rate, based on 10-year biopsy results, is about 21%. The literature reports that prostatectomy and radiation both have more than 20% recurrence rate after only five years, and more than 30% after ten years. Over 90% if her patients with recurrence have chosen to have laser focal therapy again. Six percent of patients ended up "converting" to whole-gland therapy, but the other 94% avoided the associated morbidity (side effects). At ten years, there has been only one case of metastasis (i.e., 99% metastasis-free survival), and no deaths due to prostate cancer. Five patients have died, but in every case it was from some other cause than prostate cancer, such as metastatic melanoma, esophageal cancer, Parkinson's disease or a different cancer. The patients who do the best are those who educate themselves and "stay on top of it." That is, whether in active surveillance before any treatment, or later, it is important to get regular tests and scans as guided by the oncologist, and not slip into denial.

How recurrence rates after laser focal therapy might be reduced: Increasing treatment area (but can lead to some morbidity), better risk stratification (whom to treat; based on PSA density, tissue-based genomics or liquid biopsies such as circulating tumor cells or circulating tumor DNA, molecular imaging such as by Axumin or PSMA PET/CT scanning), and/or combination treatments such as laser focal therapy with immunotherapy or oncolytic virus therapy or radiopharmaceuticals). Remember that it is possible to retreat with laser focal therapy as needed, and that "all options remain on the table" – the patient can still go for surgery or radiation or hormone therapy or whatever. If the cancer comes back, simultaneously appearing at several sites, she calls this "Whac-a-mole," and

(Continued on page 5)

(Continued from page 4)

her group turns these patients over to whole-gland therapy.

In summary, laser focal therapy is safe, it's precise, and it's outpatient feasible. The treatment can be "sculpted" to fully treat areas of concern. The transition between treatment area and unaffected surrounding tissue is 1 mm, in contrast to 5-10 mm for HIFU, Cryo, radiation and other energy sources. Thermometry via the MRI software with safety cursors placed to protect sensitive areas is in real time. It is particularly useful for treating tumors in large-volume prostates, and for treating apex cancers (narrow/tricky area at the bottom of the prostate, treated while using urethral cooling catheter and continuous bladder irrigation).

Conclusions and next steps: Laser focal therapy of prostate cancer may be an attractive, minimally invasive option for specific patient populations. Ten years of patient follow up on over 150 patients show feasibility and safety, with favorable results for quality of life (no statistically significant erectile dysfunction or incontinence), and without eliminating the possibility of whole-gland therapy or additional laser focal therapy in the patient's future. Short term and intermediate term control of the cancer is achievable in over 75% of patients. Bernadette went on to note "Nothing ruins good results like follow-up," and said that her phase 2 study will continue for twenty years. An ongoing clinical trial is exploring tissue genomics for risk stratification. And an investigational new drug submission to the FDA for combination therapy is in preparation.

3. Genomic testing: Bernadette prefers Prostavysion (2 genes – ERG and PTEN) and Decipher (22 genes). In tumors, the ERG gene may be overexpressed, which is bad. PTEN normally occurs in 2 alleles (ie, specific variations of the gene). If one allele is missing, it is called hemizygous deletion. If both, homozygous. Loss of one, or especially both, results in reduced immunosuppressive ability. So Prostavysion ranks the cancer aggressiveness based on the possible combinations of these three negative genomic factors.

[Sidebar on genomic science:

The most frequent single genomic event in prostate cancer is a translocation involving genes of the ETS family, most often ERG. Such translocation, which leads to ERG protein expression, is seen in about half of European and American prostate cancer cases. The prognostic significance of this phenomenon remains, however, controversial. -- https://www.termedia.pl/Prostate-cancer-with-different-ERG-status-may-show-different-FOXP3-positive-cell-numbers,55,29473,1,1.html

Genomic aberrations of the PTEN tumor suppressor gene are among the most common in prostate cancer. Inactivation of PTEN by deletion or mutation is identified in ~20% of primary prostate tumor samples at radical prostatectomy and in as many as 50% of castration-resistant tumors. -- https://pubmed.ncbi.nlm.nih.gov/29460925/

Deletion of phosphatase and tensin homolog (PTEN) in prostate cancer has been associated with early biochemical recurrence, increased metastatic potential, and androgen independence. -- https://journals.lww.com/appliedimmunohist/Abstract/2020/05000/PTEN_Loss_in_a_Prostate_Cancer_Cohort_From_Jordan.9.aspx]

The Decipher test was developed to analyze RNA in prostatectomy pathology samples, to determine whether the patient should receive follow-on radiation. About seven years ago, Bernadette proposed to the test inventor that the test could also be run on biopsy samples, and that it would make sense to do so if the samples were of the high quality that can be obtained using MRI-guided biopsy – to be sure that the sample was taken in the heart of the most tumor-suspicious area. He thought about it, and Decipher for Biopsy was released in 2016. Commercially, it measures 22 genes and predicts the potential for metastases. But on a research basis, they measure up to 1.4 million genes and provide access to their evolving database of genomic variations vs. disease progression. Bernadette has gotten this data for her cohort of patients under a research protocol.

Value of Decipher: It can accurately predict PCSM (prostate cancer specific mortality). Decipher results can provide much faster results than PSAdt (PSA doubling time) and can be used to predict clinically significant events (including BCR; i.e., recurrence) before all other methods. CAPRA-S and Decipher provide complementary information and together can identify very high-risk patients and provide improved risk prediction.

(Continued on page 6)

[Sidebar on the CAPRA-S score:

A CAPRA score is calculated using points assigned to: age at diagnosis, PSA at diagnosis, Gleason score of the biopsy, clinical stage and percent of biopsy cores involved with cancer. It is valid across multiple treatment approaches and it predicts an individual's likelihood of metastasis, cancer-specific mortality, and overall mortality. The University of California, San Francisco, Cancer of the Prostate Risk Assessment Postsurgical (CAPRA-S) score is a new tool updating the widely used CAPRA score with information gained from radical prostatectomy. CAPRA-S score appropriately identified patients in whom adjuvant therapy is most appropriate, and CAPRA-S has been shown to be robust for prediction of PCa-specific mortality. See https://urology.ucsf.edu/news/all/201304/ucsf-urologys-capra-s-score-validated and https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4884273/]

Several case studies were discussed in the video.

Bernadette has applied to the FDA to get Gallium-68 for PSMA scans, and plans to get 18F-DCFPyL (now the first commercially available PSMA PET imaging agent for prostate cancer) and Lutetium-177 also. The latter is a "theranostic," because it can be used both for diagnostic scans as well as for treatment. "It's a two-fer." Aaron calls it "smart bomb therapy." Two of Bernadette's patients have gone to Australia or to Germany for the theranostic, and have done really well.

With science, there is always something new on the horizon. So HALO Dx doesn't treat patients with the kitchen sink at the beginning. There is a natural progression of cancer: screening, detection, diagnosis, treatment. With early treatment with laser focal therapy, metastasis almost doesn't occur – less than 1% of the HALO Dx patients get bone mets. And expensive drugs aren't needed in most cases (I.e., chemo, ADT, etc.).

A number of promising new treatments are coming along, including checkpoint inhibitors and immunotherapies. She has begun studying an oncolytic virus called acam2000 with outstanding results with stage 4 prostate, breast, and other tumors. See "acam2000 oncolytic virus" on Google, for the article "First-in-human study of TK-positive oncolytic vaccinia virus delivered by adipose stromal vascular fraction cells."

To learn more about HALO Dx and their available imaging and treatment options, please contact their concierge patient coordinator, dennis.lacy@halodx.com (or by phone at 760-776-8989, ext. 123).

Questions:

- Does HALO Dx ever recommend hormone therapy before laser focal treatment? The current research protocol is laser-only. That could come in the future.

- Do you think that Medicare and CMS (Centers for Medicare and Medicaid Services) will approve laser focal therapy soon? Data has been presented and published for the last 11 years, but they like to see 15-20 year data on "non-inferiority" vs existing treatments. Still, she expects a CPT payment code to be issued in the next 2-3 years**. [Current Procedural Terminology (CPT codes) are 5-digit numbers assigned to every task and service a medical practitioner may provide to a patient including medical, surgical, and diagnostic services. They are used by insurers to determine the amount of reimbursement that a practitioner will receive by an insurer for that service.]** Right now, there is no code, and it is considered experimental. Insurers generally don't cover it. The procedure runs around $25K for first treatment and for subsequent treatments. If it recurs where they initially treated, then it's 50% off. All of the devices are already FDA cleared. What is needed is for CMS to pay for it! Bernadette's crystal ball says it could be as soon as two years or as far out as five years.

- How common is it for MRI PIRADS of a lesion to go from 2 to 5 in one year? She has only had a handful of such cases among thousands, and calls them "peek and shriek!" Three to seven percent of prostate cancer patients have lethal metastatic disease. MRI gives the primary indication, and by adding genomics, one can identify them so that "the kitchen sink" can be thrown at them, to try to control the cancer.

- How does proton treatment for salvage after surgery compare? HALO Dx has treated a patient who had proton therapy after recurrence, and it was no problem to treat the resurgent tumor.

- When will imaging replace invasive biopsies for diagnostic purposes? It should already have happened, based on the AUA (American Urologic Association) policy statement of Oct. 2019. No one should let their urologist do a biopsy without MRI first! Print out the policy statement and give it to your urologist.

- What about treating bone mets with laser focal therapy? It has been done, but her group doesn't do it because it requires general anesthesia, and her group only does outpatient work. They use a little lidocaine in the rectum to numb it, followed by markane injections in both sides of the prostate, which serves two purposes: It numbs the prostate, and it also creates a space (called hydrodissection) between the prostate "capsule" and the neurovascular bundle – providing a heat sink and buffer to protect the bundles while the prostate is being treated. They also give fentanyl, as a "happy drug."

- What percent of the prostate could be diseased, and still do laser focal therapy? The research protocol limits treatment to three lesions, except in the salvage setting (after surgery and/or radiation fails), where they will go after anything found, to "debulk" and to kill the "mother ship."

- How do you sculpt the treatment? The tip is inserted far forward at first, then withdrawn in stages to ablate a longer area. If needed, the tip is removed and inserted in another location.

- How does laser focal therapy compare to nanoknife? The latter requires full anesthesia, a drug to immobilize the chest, abdomen and pelvis, a ventilator and multiple needles, and has less long-term data. The width of the transition zone from treated to untreated areas is similar. See also "https://mdanderson.elsevierpure.com/en/publications/why-we-should-not-routinely-apply-irreversible-electroporation-as"

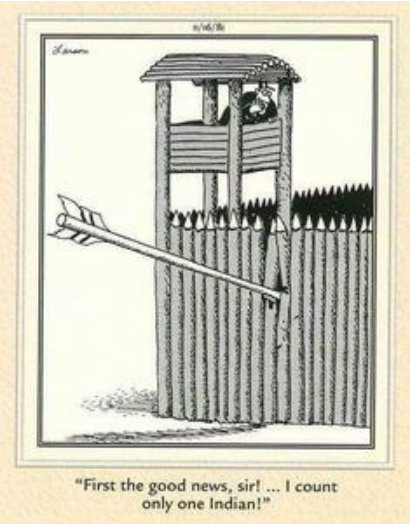
- What about immune system stimulation? She along with others believes that prostate cancer is monoclonal in nature, so that if you kill the primary tumor, the immune system will also destroy its "minions."

- Does reference to PTEN deletion refer to a condition from birth, or just in the tumor? It is the tumor that is analyzed, not healthy tissue.

- Avenda Health was recently granted FDA breakthrough device designation for their Focal Laser Ablation System designed for in-office use. How does it compare? It uses ultrasonic guidance and thermocouples, without the detailed real-time imaging and temperature sensing available from in-bore MRI. There is very limited clinical experience so far – 11 patients -- and it has an unexpectedly high recurrence rate.

The video is available on YouTube at https://www.youtube.com/watch?v=2M55j0eGj_s, and a dvd of the video and the PowerPoint slides will be available by the time of our next meeting. It may be ordered on the website for $10 postage-paid. As noted above, Bernadette's email is Bernadette@halodx.com.

On the Lighter Side



IN REMEMBRANCE OF LYLE LAROSH, THE MAN WHO ORIGINATED IPCSG

By Gene Van Vleet, Director

Layle LaRosh, our president, friend, mentor, and originator of our support group has moved on to a more peaceful place. He had an unusual and unfortunate accident the soon took his life.

He had developed a successful electronic business that supplied electronics to the tuna industry and was highly regarded and well-known in the business community. Further, he worked tirelessly to organize charitable events, i.e. professional golf tournaments for 20 years, harbor excursions and motor cycle rides.

Lyle first began developing an interest in Prostate Cancer (PCa) in 2000 when, after being diagnosed with PCa, he attended a small group meeting co-founded by Wayne Kenaston, Jr. and Frank Anders Ph.D. who had founded a small group in 1990 that met in a kitchen in Spring Valley. Lyle told me he took 16 pages of notes during the meeting and began developing the idea of further developing a support group that could reach out and benefit more men dealing with our common disease. He continually did research about PCa and was so learned that he could understand or even argue about the validity of many professional opinions.

He first legally established a non-profit organization, Informed Prostate Cancer Support Group, (IPCSG) with no connection to medical, business, or individuals, but rather supported by donations of members and business acquaintances with no obligation other than helping. The group began meeting in a church in the Grantville area of San Diego. Those meetings, headed up by Lyle and a few men who volunteered to assist, consisted of discussions by attendees about their issues in dealing with PCa and, occasionally, professionals providing the most recent information about dealing with the disease. The attendance probably averaged 20-30 men.

To my knowledge Lyle only had radiation to his prostate, but I am unaware of any medications he used. I do know he had his PCa under control.

I attended my fist meeting there in 2007 after having retropubic prostrate surgery in 2003 followed by salvation radiation several years later because it became known that my cancer was outside the prostate even before the surgery. I was in the process of retiring as the CFO of a business and, as yet, had not really contributed any purposeful effort to anything beyond business. After that first meeting, I talked to Lyle and told him I wanted to become an integral part of IPCSG, which began a long friendship as well as the opportunity to help grow and improve IPCSG. Through this group I learned of Prostate Oncology Specialists, and I quickly became a patient of Dr. Richard Lam who has guided me for 14 of the 18 years since my diagnosis. When first diagnosed, I would have never believed I would see the age of 82.

Lyle, again through personal relationships, gained permission to meet at Moore's Cancer Center auditorium at UCSD at no cost. We began advertising and encouraging attendees to spread the word about what we were accomplishing by aiding men in dealing with PCa. Attendance grew and more professional speakers were invited to more meetings, but we always made sure there was time for men to inter-act and learn of others' experiences. Attendance grew to about 40. Concurrently, Lyle established a friendship with Dr. A.J. Mundt MD. Chair of Radiation Medicine and Applied Sciences at UCSD. That relationship grew as well as that with Dr. Richard Lam, MD of

(Continued from page 8)

Prostate Oncology Specialists, both of whom have continued to support and speak to our group each year to keep us up to date on the most recent developments to understand and treat PCa.

We outgrew that UCSD facility and Lyle, again, was able to arrange to have our meetings beginning in 2011 at a 134-seat auditorium owned by Sanford Burnham Prebys Institute—free of charge. We began inviting spouses and significant others. Our average attendance, prior to the Pandemic. was about 90. When Dr. Mundt or Dr. Lamb spoke each year, we often over-filled the auditorium. We maintain a member listing of about 900 men which is reviewed quarterly for validity. All are notified via the website of each upcoming event or newsletter.

During our process of growth, we developed a tri-fold brochure, advertise prior to each meeting, prepare a DVD of each meeting which can be purchased for a minimal amount via PayPal, developed a very informative website, and publish a newsletter shortly after each meeting. All these things are made possible by volunteer staff---no one gets paid.

And then came the Covid-19 Pandemic. We as yet cannot have meetings but, again, through the expertise of our volunteer staff, live-streaming was developed that is available at the same time of the previous meeting dates (3rd Saturday each month at <> 10:00a.m.) and has had many highly knowledgeable speakers each month. Shortly after each live-stream meeting it becomes available on YouTube.

I will stay in touch with the Sanford, Burnham Prebys representative who will inform me when we can meet again.

All through this we were aided by Lyle. We will sorely miss his presence, friendship, humor, and expertise.

Articles of Interest

Invitae's Genetic Testing

Ask your doctor if Invitae's suite of oncology genetic tests may help you personalize cancer care. Start with germline genetic testing for all cancer patients at diagnosis to objectively assess risk levels, identify who may benefit from targeted treatments including PARP inhibitors, and determine if family members also may benefit from testing.

Access In network with all national payers, covering more than **300 million** patients
Affordability Patient-pay price of **$250**, with a typical out of pocket no more than **$100**
Support Case review with a genetics expert, post-test genetic counseling, & results guides
Get Started Today

Talking to People About Your Prostate Cancer Diagnosis

webmd.com

By Shishira Sreenivas

About 1 in 8 men learn that they have prostate cancer sometime during their lifetime. In fact, it's the second leading cause of cancer death among men in the U.S. But after they get the news, many men find it hard to talk about it or to reach out for help and support as they navigate their cancer journey.

While no one really knows why there's shame and stigma attached to prostate cancer, Christopher Filson, MD, assistant professor of urology at Emory University School of Medicine in Atlanta, says it may have something to do with how the diagnosis and side effects of treatment side effects can affect your sex life and how manly you feel.

"[These] may be topics that men are very cautious about discussing with family members, with friends, and others, making it a little bit more sensitive. And may be more difficult for them to branch out to get more information from their typical support networks," Filson says.

The prostate is a walnut-sized gland located right below the bladder and surrounds the urethra -- a tube that carries urine out of your body. The prostate also makes and stores fluid that helps your body make semen. But when cancer cells grow in that gland, Filson says it can "decrease sexual function and urinary control."

"[This] can be the hardest time for a man, particularly if they're still anxious about cancer care."

It's About More Than Just Cancer

Jerry Deans knows this feeling all too well. It's been more than 22 years since Deans found out that he had prostate cancer. In 1999, when Deans was 55, a gut feeling to get a physical led to the diagnosis.

(Continued on page 11)

NETWORKING

Please help us in our outreach efforts. Our speakers bureau consisting of Gene Van Vleet is available to speak to organizations of which you might be a member. Contact Gene 619-890-8447 or gene@ipcsg.org to coordinate.

John Tassi is the webmaster of our website and welcomes any suggestions to make our website simple and easy to navigate. Check out the Personal Experiences page and send us your story. Go to: https://ipcsg.org/personal-experience

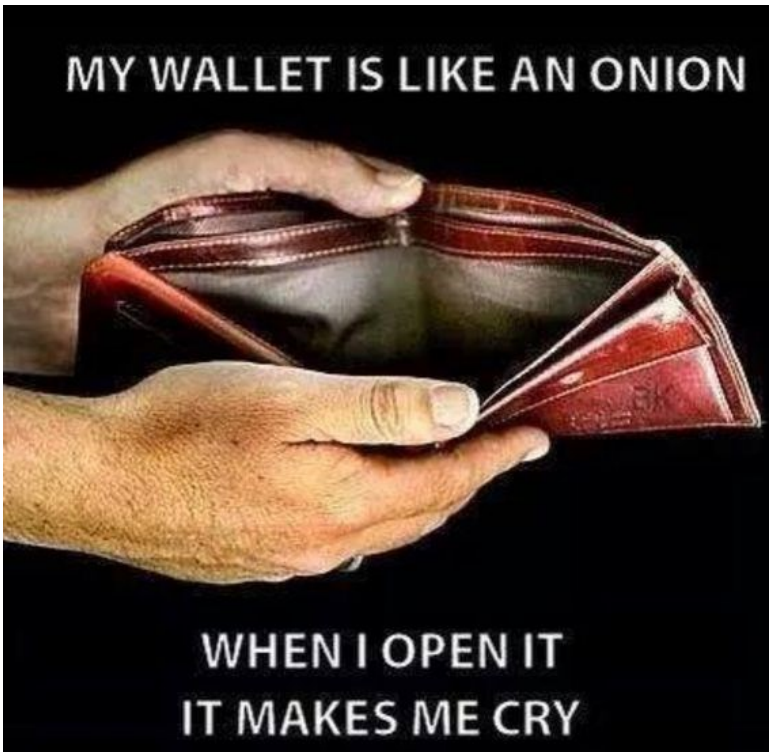
Our brochure provides the group philosophy and explains our goals. Copies may be obtained by mail or email on request. Please pass them along to friends and contacts.

Ads about our Group may be in the Union Tribune the week prior to a meeting. Watch for them.

FINANCES

We want to thank those of you who have made special donations to IPCSG. Remember that your gifts are tax deductible because we are a 501(c)(3) non-profit organization.

We again are reminding our members and friends to consider giving a large financial contribution to the IPCSG. This can include estate giving as well as giving in memory of a loved one. You can also have a distribution from your IRA made to our account. We need your support. We will, in turn, make contributions from our group to Prostate Cancer researchers and other groups as appropriate for a non-profit organization. Our group ID number is 54-2141691. Corporate donors are welcome!



While our monthly meetings are suspended, we still have continuing needs, but no monthly collection. If you have the internet you can contribute easily by going to our website, http://ipcsg.org and clicking on "Donate" Follow the instructions on that page. OR just mail a check to: IPCSG, P. O. Box 420142, San Diego CA 92142

(Continued from page 9)

Nobody he knew had prostate cancer. Deans asked his doctor if he knew anyone he could connect with. Turns out, there were several people, but none of them were telling anyone about their condition.

"If men are afraid of it, they're not going to share it. [They] just don't call up on other men and say, 'Hey, I've got prostate cancer and I'm scared to death. What do I do about this?' They just don't do that," Deans says.

Instead, the tendency is to look it up on the internet. Deans says that can be overwhelming.

"It's like drinking out of a fire hose -- you're just overwhelmed by it all. So, you do need support of other people."

Finding out that you have prostate cancer can take a toll on your mental health and cause:

Depression
Anxiety
Stress
Fear
Uncertainty
Feelings of isolation
Lower self-worth

Right after his diagnosis, Deans underwent surgery, and the doctor told him he might have beaten this for good. So, Deans says he didn't bother reaching out to a support group.

Unfortunately, the cancer came back about a year later.

Despite radiation and chemotherapy, Deans's levels of protein-specific antigen (PSA) -- a type of protein produced by prostate cells that can measure a cancer's progression -- kept climbing.

An oncologist told Deans and his wife that his cancer had spread, and that he may have it for the rest of his life.

"We were very depressed," Deans says. "It's one of the lowest days in my life to find out that I had metastatic prostate cancer somewhere in my body.

On his way out of the doctor's office, he picked up a brochure for a prostate cancer support group.

At his first meeting, he not only met others going through a similar journey, but also a urologist who had prostate cancer. Deans was able to get a second opinion, learn coping strategies, and get insight into other people's prostate cancer journeys.

The support group became a space where he could "speak freely" about whatever was troubling him, or use it as an educational resource to learn more about his condition.

"The cancer doesn't care whether you pay attention to it, or just forget about it and deny it. If you want to survive to live a long, healthy life, then you need to do that with information, support, education, and advocate for yourself," Deans says.

The Couple's Disease

Prostate cancer, besides taking a physical and emotional toll on you, can bring physical side effects and a lack of communication that can affect your relationship with your partner.

Bob Wright, 74, had no symptoms when he found out he had prostate cancer in 2007. After a few years of treatment, doctors told him he had no evidence of recurring disease (NERD). But the side effects left him "severely impotent and incontinent."

"I still remember a poster that said prostate cancer is the couple's disease. Because many men, as a result of having treatment for prostate cancer, the radiation or surgery, end up being impotent, and that affects the couple's relationship," Wright, a native of Austin, TX, says.

"So that part is probably the most traumatic part many don't know."

Filson encourages partners to come along to doctor visits, especially the first time. Often, partners can communicate better about the reality, point out abnormal symptoms, or push men to get tested.

Having a partner there can be especially helpful if you feel shame or embarrassment about your prostate cancer diagnosis or symptoms.

"I try to gauge the relationship and see how the communication is," Filson says. "You often get subtle clues as to partners who roll their eyes about their significant others not disclosing information or being stubborn."

(Continued from page 11)

Because female partners tend to become primary caregivers to men with prostate cancer, Filson is able to prepare them for what's to come.

For Vivian Conboy, 49, her 55-year-old husband's stage IV prostate cancer diagnosis came as devastating news in 2020. But what surprised her more was that there were family members who had prostate cancer but never shared anything about it.

"I'm starting to hear more about prostate cancer now from local people because my husband has it and he's very involved in the community," Conboy, a New Jersey native, says.

"People have come out, 'Oh yeah, I have that. Oh yeah, I have this,' But it's very taboo."

It's still difficult for her husband to open up about it. Conboy says he tends to crack jokes about it in front of his brothers or friends about things like paying for life insurance. But she chalks it up to a "coping mechanism."

As the primary caregiver, Conboy didn't feel she could speak to her friends about her husband's health or the changes in their intimate life. So, she reached out to a local support group for help and advice.

"It helped to read other people's stories. I was just here to commiserate and it was good knowing you're not the only one going through it," Conboy says.

Now, she encourages her nephews and sons to get tested early and work on staying healthy, including eating healthfully. She says it's her way to normalize the discussion around prostate cancer.

"There's nothing to be embarrassed or shameful about."

When Keith Hoffman's PSA test showed slightly elevated numbers, it was his then-fiancé (now-wife) who encouraged this 62-year-old to go to a urologist. Fortunately for Hoffman, his prostate cancer was caught early, and he was able to have surgery the same month.

But it still took a toll on him.

"Something I learned in the cancer journey was that it's very hard to deal with anyone being told they have cancer," Hoffman says. It was also his wife who pushed him to reach out to a local support group led by Us TOO, a national prostate cancer support organization with local chapters, to get help.

"It gives men the opportunity to talk to other men and their caregivers about all aspects of the process from not just the obvious comfort of doctors and specialties, but choice of treatment, tips, or things to recognize along the way in terms of soreness or expectation of recovery time from a lay person's set up," Hoffman says. He relied on the group's support and camaraderie so much that he decided to join the national organization's board of directors.

The Importance of Support

Hoffman and Wright met at the same local chapter in Austin, TX. Both attest to how important and "valuable" it is to seek help, share your journey, and talk about your diagnosis with peers -- especially those who've been through similar obstacles.

Getting informed can feel empowering no matter what stage your cancer is in.

"They can just feel safe and they can say or not say anything," Wright says. "But the magic happens after the meeting. The guys don't want to go home."

Talking to others about your diagnosis can:

Provide camaraderie and support

Make you feel less alone or isolated

Educate you and make you feel empowered to face your diagnosis and treatment

Open up additional resources that can provide things like treatment dos and don'ts, help managing side effects, suggestions for health care providers, and tips for living a healthier lifestyle

Ease depression and anxiety

Help you learn coping skills and gain tools to deal with stress

Provide a safe space for you to talk openly about your feelings, doubts, and fears

If you're unable to locate a support group in your area, you can find many virtual communities to join and share your journey with.

(Continued from page 12)

Besides support groups, you can also lean on your cancer care team at your hospital. This includes a variety of health care professionals like therapists, social workers, palliative care specialists, and oncologists. Often, the resources are available at no cost. If you have questions, ask your doctor about it.

Exercises like yoga and meditation, as well as counseling with a therapist, can also improve your mood and help you navigate your cancer journey.

If you're worried about medication or treatment side effects, bladder issues, and sexual dysfunction, it's important to let your doctor know. They may be able to find treatment options that work better for you.

Things People With Prostate Cancer Wish You Knew

webmd.com

Prostate cancer happens when abnormal cells grow and develop quicker than normal in your prostate. That's the walnut-shaped gland that makes fluid to nourish and transport sperm.

It's one of the most common types of cancer. Some forms of this cancer are mild and may need minimal treatment, while others are more aggressive.

Here's what people with prostate cancer want you to know.

Prostate cancer can be asymptomatic.

Like some other forms of cancer, prostate cancer might not cause any symptoms in its early stages.

Jefferey Presley, 59, got his prostate cancer diagnosis in January 2021. Other than an enlarged prostate and the fact that he was peeing a bit more than normal, Presley didn't notice any other warning signs. His doctor discovered his cancer through routine bloodwork.

Advanced stages of prostate cancer might include:

Trouble urinating

Weaker stream of urine

Blood in your urine or semen

Bone pain

Unexpected weight loss

Erectile dysfunction

Which symptoms you have may vary, or you might have no symptoms at all.

Schedule regular checkup appointments.

Since prostate cancer is hard to find early on, it's important that you keep up with your doctor's appointments and stay in touch with your team. They can tell if testing you for changes in your prostate-specific antigen (PSA) level or using a digital rectal exam (DRE) can help check for any issues.

If your doctor finds prostate cancer in a beginning stage, it's a lot easier to treat.

"Early detection, in my mind, is key. Don't wait," Presley says. "Whether you're 20 or 40, go to the doctor. It's just a matter of taking care of yourself."

Albert Bo Smith, 67, found out he had prostate cancer more than 7 years ago. But if it weren't for the fact that Smith regularly visits his doctor, his doctors may not have found his cancer.

"It's really important, as we get older, to have regular checkups with the doctors," he says. "Thankfully, I have done that."

If your doctor notices a change, they might suggest further testing, like a biopsy. That's when your doctor will remove a piece of your tissue to look at it closer in a lab.

Do your own research.

If your doctor discovers that you have prostate cancer, don't panic. There are many forms of treatment. Smith suggests that you do your own research on prostate cancer therapies.

"When you get prostate cancer, it's really important to research the different treatments, Smith says. "It used to be years back we didn't have as many options for treatment as we do now."

Considering your quality of life before treatment is crucial. Some types of treatment may fit your needs better than others. For example, brachytherapy, which delivers radiation directly to the prostate with much lower doses in surrounding areas, may be safer than and just as effective as traditional radiation therapy.

(Continued from page 13)

Get a second opinion.

After you find out that you have prostate cancer, you might find it helpful to get a second opinion from another doctor. After doing that himself, Smith felt like he was more in control of his cancer treatment.

"That [second] doctor referred me to someone who could go over all the different possibilities. Thankfully, I had choices. I had options," he says.

Ray Posey, 69, urges people to be their own advocates and push for the care they deserve. He finds that getting a second opinion can help you to find answers that could be more useful to you.

Take care of you.

With prostate cancer, you may feel depressed, worried, or anxious. But there are many ways you can maintain a good quality of life.

"The first big message I would say is that there's help out there," Smith says.

Smith says make use of counseling services and support groups, either in-person or online. Ken Susalla, 75, has had both throat and prostate cancer. He now works as a volunteer for others who are navigating a cancer diagnosis. He's a part of a one-on-one support group who matches recently diagnosed people with others who have been through cancer.

"If I can help anybody get through this disease, I will," Susalla says.

Relaxation classes like yoga can help a lot, too. Studies also suggest that getting regular physical activity and maintaining a healthy diet can help make you feel better.

Presley finds that he's able to keep his mental health in check by focusing on the positives. Through his faith and favorite hobbies, Presley can keep himself from dwelling on unwanted thoughts.

Susalla says while it's important to plan for your future treatment and care, it helps to focus on the things you can control. Don't get caught up in the past, and do your best to not worry about the future.

Some people may live with this prostate cancer for many years, or it may go away and come back. Since most people get their diagnosis while their cancer is in a lower stage, many live long lives with prostate cancer.

Susalla finds it helpful to tell others that, in most cases, living with prostate cancer is just like living with any other medical condition. If you take care of your health, go to your appointments, and have treatment, you're likely to have a good quality of life for many years.

Posey says that dealing with a long-term condition can sometimes be like an "emotional rollercoaster." At some points, you may worry about your cancer coming back, but at other moments, you may be celebrating good test results.

You can be cured.

If your cancer stays in your prostate (your doctor may call it "localized), the survival rate is nearly 100%. The overwhelming majority of men get cured of their cancer. It's yet another reason that early detection and treatment are so important.

Androgen deprivation therapy and cognitive decline—associations with brain connectomes, endocrine status, and risk genotypes | Prostate Cancer and Prostatic Diseases

nature.com

Robert Zachariae

Abstract

Background

Evidence suggests that prostate cancer (PC) patients undergoing androgen deprivation therapy (ADT) are at risk for cognitive decline (CD), but the underlying mechanisms are less clear. In the present study, changes in cognitive performance and structural brain connectomes in PC patients undergoing ADT were assessed, and associations of cognitive changes with endocrine status and risk genotypes were explored.

Methods

Thirty-seven PC patients underwent cognitive assessment, structural MRI, and provided blood samples prior to ADT and after 6 months of treatment. Twenty-seven age- and education-matched healthy controls (HCs) underwent the same assessments. CD was determined using a standardized regression-based approach and defined as z-

(Continued from page 14)

scores ≤ −1.64. Changes in brain connectomes were evaluated using graph theory. Associations of CD with testosterone levels and genotypes (*APOE*, *COMT*, *BDNF*) were explored.

Results

Compared with HCs, PC patients demonstrated reduced testosterone levels ($p < 0.01$) and higher rates of decline for 13 out of 15 cognitive outcomes, with three outcomes related to two cognitive domains, i.e., verbal memory and visuospatial learning and memory, reaching statistical significance ($p \leq 0.01–0.04$). Testosterone level changes did not predict CD. *COMT* Met homozygote PC patients evidenced larger reductions in visuospatial memory compared with Val carriers ($p = 0.02$). No between-group differences were observed in brain connectomes across time, and no effects were found of *APOE* and *BDNF*.

Conclusions

Our results indicate that PC patients undergoing ADT may evidence CD, and that *COMT* Met homozygotes may be at increased risk of CD. The results did not reveal changes in brain connectomes or testosterone levels as underlying mechanisms. More research evaluating the role of ADT-related disruption of the dynamics of the hypothalamic–pituitary–gonadal axis is needed.

ProCanBio: a database of manually curated biomarkers for Prostate Cancer | bioRxiv

Abstract

Background: Prostate Cancer is the second lethal malignancy in men worldwide. In the past, numerous research groups investigated the omics profiles of patients and scrutinized biomarkers for the diagnosis and prognosis of prostate cancer. However, information related to the biomarkers is widely scattered across numerous resources in complex textual format, which poses hindrance to understand the tumorigenesis of this malignancy and scrutinization of robust signature. To the best of authors knowledge, there is no resource that can consolidate the information contained in all the published literature.

Results: Here, we present ProCanBio, a manually curated database that maintains detailed data on 2053 entries of potential prostate cancer biomarkers obtained from 412 publications in user friendly tabular format. Among them, 766 protein-based, 488 RNA-based, 157 genomic mutations, 261 miRNA-based, and 122 are metabolites-based biomarkers. To explore the information in the resource, a web-based interactive platform was developed with searching, and browsing facilities. ProCanBio https://webs.iiitd.edu.in/raghava/procanbio/ is freely available and is compatible with most web browsers and devices. Eventually, we anticipated this resource will be highly useful for the research community involved in the area of prostate malignancy.

Brief, intense radiation and hormone therapy for very high-risk prostate cancer | THE "NEW" PROSTATE CANCER INFOLINK:

prostatecancerinfolink.net

As we've seen, brachy boost therapy seems to have the best oncological results for men with very high-risk prostate cancer. But brachy boost therapy entails 20-25 external beam radiation treatments plus the invasive placement of radioactive seeds or needles plus at least 18 months of testosterone suppression. While the oncological results are excellent, with about 80 percent cure rates, there is significant risk of serious late-term urinary retention. In some men, testosterone never fully recovers.

McBride et al. reported the early results of the AASUR trial. The goal of the trial was to find a treatment with equivalent oncological outcomes, but one that is easier on the patient, with less risk of long-term toxicity. They recruited 64 patients at four top institutions (Memorial Sloan-Kettering, Johns Hopkins, University of Michigan, and Thomas Jefferson University). All patients were "very high risk," defined as:

Any Gleason score (GS) 9 or 10, or

Four or more cores of GS 8, or

Two high-risk features (clinical stage T3/4, GS 8, or PSA > 20), and

No metastases (N0, M0)

Patients were treated with:

(Continued from page 15)

SBRT (7.5-8.0 Gy x 5 treatments)
6 months of Lupron, Erleada, and Zytiga
After 30 months of follow-up:
89 percent were free of biochemical failure
Median PSA at the last follow-up was 0.1 ng/ml
PSA remained undetectable in 40 percent of patients
Testosterone rose to non-castrate levels at a median of 6.5 months after hormone therapy ended, and almost all rose to > 150 ng/dl
23 percent of patients experienced transient serious toxicities, mostly hypertension
Quality of life scores at 1 year held for urinary and rectal domains but declined in sexual and hormone domains.

How Do These results Compare to Other Trials of Radiation + ADT in High-Risk Patients?

Lin et al. used whole pelvic IMRT with an SBRT boost to the prostate and 2 years of ADT in 41 high- and very high-risk patients. With 4 years of follow-up, they reported 92 percent biochemical recurrence-free survival (bRFS).

Hoskin et al. used high-dose-rate brachytherapy as a monotherapy in 86 high-risk patients. Most (80 percent) had adjuvant ADT for a median of 6.3 months (range: 1-40 months). With 4 years of follow-up, they report 87 percent with bRFS among high-risk patients.

Zapatero et al. reported the results of the DART 01.03 GICOR trial of escalated dose IMRT with either short-term (4 months) or long-term (28 months) ADT. There were 185 high-risk patients with about half getting each ADT protocol. About a quarter received simultaneous radiation of their pelvic lymph nodes. With 5 years of follow-up, they report 76 percent with bRFS among high-risk patients who got short-term ADT and 88 percent with bRFS among high-risk patients who got long-term ADT.

Alan Pollack reported early results of the NRG Oncology 0534 or SPPORT randomized clinical trial at the ASTRO meeting in 2018. Approximately 600 patients with a biochemical failure after prostatectomy were treated with whole pelvic salvage radiation. They all received 4-6 months of adjuvant ADT. With 5 years of follow-up, they reported 89 percent with bRFS. (They defined this second bRFS as nadir + 2.0 ng/ml, as in radiation trials.)

This table summarizes these trials:

	AASUR	SBRT boost (Lin et al.)	HBRT-BT (Hoskin et al.)	IMRT (DART 01.03 GICOR)		SRT (SPPORT)
Follow-up	2.5 years	4 years	4 years	5 years	5 years	5 years
Radiation	SBRT	IMRT + SBRT boost	HDR-BT monotherapy	IMRT (dose escalated}	IMRT (dose escalated)	RP + SRT
Coverage area over prostate	Seminal vesicles	Whole pelvic	± seminal vesicles (if MRI positive)	Seminal vesicles 27% whole pelvic	Seminal vesicles 19% whole pelvic	Whole pelvic
Adjuvant hormonal therapy	ADT + Zytiga + Erleada	93 percent ADT	80 percent ADT	ADT	ADT	ADT
Duration of adjuvant hormonal therapy	6 months	2 years	6.3 months	4 months	28 months	4-6 months
Risk level	Very high risk	78 percent high risk 22 percent very high risk	High risk	High risk	High risk	Recurrent
Biochemical recurrence-free survival (bRFS)*	89 percent	92 percent	87 percent	76 percent	88 percent	89 percent

* bRFS assessed as PSA level stayed lower that nadir + 2.0 ng/ml.

2.5 years of follow-up is too early to draw valid conclusions. We see that most of the trials had higher bRFS even with much longer follow-up; however, only AASUR recruited very high-risk patients exclusively. ICECAP has shown that only metastasis-free survival is a valid surrogate endpoint for overall survival. A trial among high-risk patients will have to run for 8-10 years to collect a sufficient number of metastases to draw valid conclusions, so we can only look at this as an early signal.

Treatment of Pelvic Lymph Nodes

We know that the time to be able to see the first few cancerous pelvic lymph nodes is often several years, so 2.5 years of follow-up tells us little. The newly approved PSMA PET scans will be able to rule out the larger metastases (> 5 mm), but will never be able to find metastases smaller than that. Waiting for visibility to make the decision to treat is a bad idea. By the time some lymph nodes are large enough or rapidly growing, the risk of spread outside the pelvic lymph node drainage area increases, and the hope of a cure may vanish.

The PSMA PET/CT is nevertheless worthwhile. While a negative scan does not change the treatment decision, a positive scan may detect occult metastases or pelvic lymph nodes that may benefit from a higher spot dose and more intense or longer hormone therapy.

We rely on validated formulas to tell us the probability that there are microscopic pelvic lymph node metastases. Two of the popular formulas are the Roach Equation (discussed here) and the Yale Formula (discussed here).

There ***is*** a risk of over-treatment. Many high-risk patients will never require pelvic lymph node treatment, and we are awaiting evidence (RTOG 0924) that such treatment will improve survival. As we have seen, bRFS is improved.

However, the only risk is that toxicity will be higher when the whole pelvis is treated. Murthy et al. showed that even at higher doses of pelvic lymph node radiation, there was no increase in acute toxicity, late gastrointestinal toxicity, and no deterioration in patient-reported quality of life scores.

Arguably, 25 extra IMRT treatments to the pelvic lymph nodes represent a patient inconvenience over the 5 SBRT prostate-only treatments. In the UCLA and Sunnybrook high-risk SBRT trials, the pelvic lymph nodes may be treated (to 25 Gy) within the same 5 treatments. So far, with limited follow-up, cancer control is high and toxicity is low.

Hormone Therapy Intensification

The DART 01.05 GICOR trial proved that long-term (28 months vs 4 months) ADT improves survival in high-risk patients even when treated with dose-escalated IMRT. Nabid et al. proved that 18 months is often as good as 36 months. AASUR suggests that, by including both Zytiga and Erleada, the duration of hormone therapy can be shortened. But the sexual and hormone quality of life did diminish. This raises questions that can only be answered in an expanded randomized clinical trial:

Are all three medications (Zytiga, Erleada, and Lupron) necessary for the benefit? The ACIS trial found that adding Erleada increased radiographic progression-free survival in mCRPC patients. There was no such synergy found in adding Xtandi to Zytiga in this non-randomized trial.

Do they add much to Lupron alone if whole pelvic radiation is given?

Does Lupron alone for, say, 9 months, with whole-pelvic SBRT (as in the UCLA trial) afford the same benefit with less toxicity? And would Orgovyx instead of Lupron allow for earlier testosterone recovery?

Can genomics (Prolaris or Decipher testing of biopsy tissue) identify patients who might benefit from the combined hormone therapy?

Editorial note: *This commentary wax written by Allen Edel for The "New" Prostate Cancer InfoLink.*

Filed under: Living with Prostate Cancer, Management, Risk, Treatment, Uncategorized | Tagged: ADT, brachy boost, high-risk, hormonal therapy, radiotherapy |

Targeted Radiotherapy Might Help Men Battling Advanced Prostate Cancer | Cooking with Kathy Man
cookwithkathy.wordpress.com

Targeted Radiotherapy Might Help Men Battling Advanced Prostate Cancer

Cara Murez wrote . . . . . .

Patients with advanced prostate cancers may have newfound hope: Researchers identified a new potential treatment for men with metastatic castration-resistant prostate cancer, which has no cure.

(Continued from page 17)

Metastatic castration-resistant prostate cancer means the disease continues to spread despite therapies that deplete male hormones (androgens) such as testosterone, which are thought to "feed" tumors.

When added to standard care, this novel targeted radiotherapy improved survival for these cancer patients, researchers report.

The study "offers the treatment possibility where there was really very little for the most advanced patient, but it opens a doorway for exploring the benefits of this drug in multiple earlier patient populations," said Dr. Michael Morris, head of the Prostate Cancer Section at Memorial Sloan Kettering Cancer Center in New York City.

In about 80% of prostate cancers, there is a protein on the surface of the cancer cell that is called prostate-specific membrane antigen (PSMA). It is also distributed on prostate cancer that has spread to the bone, lymph nodes or soft tissues. Yet, PSMA is not on normal tissues, so it was a good target for both diagnostics and therapeutics, Morris explained.

The new drug has two components, a targeting molecule and a payload delivers radiation. It is given intravenously.

"Each of the molecules of drug is seeking to bind with the cells containing PSMA, which generally are the prostate cancer cell. As the drug binds to it, the cell brings the drug into the interior of the cell. The radiation, which is attached to the drug, it's the payload of the drug, is also brought into the interior of the cell. And there, it irradiates the cell and kills it as well as the cells that are neighboring to it," Morris said.

To be a part of the trial, the patients had to have disease that had progressed through testosterone-lowering therapy, which has been the standard for decades, Morris said. They also had to have progressed through another class of drugs known as androgen-receptor pathway inhibitors and through chemotherapy.

"What happens when you go on to treatment with prostate cancer is that if you respond, you stay on that therapy or stay on that regimen until either side effects preclude continuing the therapy or it no longer works because the disease has become resistant to it," Morris explained.

The trial included 831 participants. Patients were randomized two-to-one to receive the new treatment, called lutetium-labeled PSMA-617, plus standard care or just standard care between June 2018 and October 2019.

The new treatment increased overall median survival to 15.3 months versus 11.3 months for these patients who had very advanced disease. It also increased a measure called radiographic progression-free survival, which reflects disease control while on the drug, from a median of 3.4 months to 8.7 months.

The study is being presented online at the American Society of Clinical Oncology annual meeting, which will be held June 4-8. Findings presented at medical meetings are considered preliminary until published in a peer-reviewed journal. Drug maker Novartis funded the study and plans to submit the data to regulatory authorities for review and potential approval.

Prostate cancer is both the most common cancer in American men and the second leading cause of cancer-related death. The study's positive results mean that patients who have very advanced disease might have a new treatment option.

"It also means that, usually in prostate cancer as well as other diseases, what you develop and discover as a new therapy for the most advanced patients usually benefits earlier patients and frequently we'll see those benefits amplified in less sick patients who have less-resistant disease," Morris said.

Current studies are now looking at the therapy for patients who have earlier disease who have not yet received chemotherapy, as well as those who are just beginning treatments for prostate cancer.

Dr. Ash Tewari, system chair in the Milton and Carroll Petrie Department of Urology at Mount Sinai Health System in New York City, said the study offers a lot of promise for patients, giving those with advanced prostate cancer new hope. It also has a reasonable side effect profile, said Tewari, who was not involved in the study.

"Androgen deprivation is the mainstay of therapy of advanced prostate cancer, but the cure rate is low and patients eventually become castrate-resistant," Tewari said. "There is a need to more closely tailor therapies to individual patient profiles."

Noting the median results for overall survival that the study found, Tewari said that extra four months of life can be very meaningful for someone who lives to see an important family milestone, such as a grandchild's wedding.

(Continued from page 18)

"This is a good example of when a well-conducted clinical trial backed by scientific data can make an impact in patient's life. And we should always be curiously, cautiously looking at these options," he said.

Source: HealthDay

Filed under: Health, News and Articles | Tagged: Prostate Cancer |

Twenty-year trends in prostate cancer stage and grade migration in a large contemporary german radical prostatectomy cohort - Würnschimmel - - The Prostate - Wiley Online Library

Christoph Würnschimmel MD, Mykyta Kachanov MD, Mike Wenzel MD, BSc, Philipp Mandel MD, Pierre I. Karakiewicz MD, Tobias Maurer MD, Thomas Steuber MD, Derya Tilki MD … See all authors

First published: 10 June 2021

https://doi.org/10.1002/pros.24181

Sections

Abstract

Background

A trend towards inverse stage migration in prostate cancer (PCa) was reported. However, previous analyses did not take into account potential differences in sampling strategies (number of biopsy cores), which might have confounded these reports.

Material and Methods

Within our single-institutional database we identified PCa patients treated with radical prostatectomy (RP) between 2000 and 2020 ($n = 21{,}646$). We calculated the estimated annual percentage change (EAPC) for D'Amico risk groups, biopsy Gleason Grade Group (GGG), PSA and cT stage as well as postoperative RP GGG and pT stage relying on log linear regression methodology. Subsequently, we repeated the analyses after adjustment for number of cores obtained at biopsy.

Results

Absolute rates of D'Amico low risk decreased (−30.1%), while intermediate and high risk increased (+21.2% and +9.0%, respectively). Rates of GGG I decreased (−50.0%), while GGG II–V increased, with the largest increase in GGG II (+22.5%). This trend, albeit less pronounced, was also recorded after adjusted EAPC analyses ($p < .05$). Specifically, EAPC values for D'Amico low vs intermediate vs high risk were −1.07%, +0.37%, +0.45%, respectively, and EAPC values for GGG ranged between −0.71% (GGG I) and +0.80% (GGG IV). Finally, an increase in ≥cT2 (EAPC: +3.16%) was displayed (all $p < .001$). These trends were confirmed in EAPC calculations in RP GGG and pT stages ($p < .001$).

Conclusion

Our findings confirm the trend towards less frequent treatment of low risk PCa and more frequent treatment of high risk PCa, also after adjustment for number of biopsy cores.

Sexual function outcomes of radiation and androgen deprivation therapy for localized prostate cancer in men with good baseline function | Prostate Cancer and Prostatic Diseases

nature.com

Daniel A. Barocas

Abstract

Background

Sexual dysfunction, including erectile dysfunction and loss of libido, are common among men undergoing treatment for localized prostate cancer. Both local treatments and systemic androgen deprivation therapy may contribute to these outcomes and are differentially indicated based on disease characteristics. We sought to compare sexual function through 5 years after radiation treatment with and without androgen deprivation therapy in men with good baseline sexual function to better understand long-term effects in this understudied subset of patients.

Methods

We retrospectively reviewed a prospectively assembled population-based cohort of men who underwent radiation with and without androgen deprivation therapy for intermediate or high-risk localized prostate cancer. Sexual

(Continued from page 19)

function was assessed longitudinally over 5 years. Men with erections sufficient for intercourse at baseline were selected for inclusion.

Results

Out of 167 patients included, 73 underwent radiation alone and 94 received androgen deprivation therapy plus radiation (51 with intermediate and 43 with high-risk disease). Androgen deprivation therapy use was associated with worse sexual function through 1 year regardless of disease risk. This difference was no longer statistically significant at 3 years in the intermediate-risk group. Compared to radiation alone, androgen deprivation therapy in high-risk disease was associated with worse sexual function at 3 years (effect: −20.3 points, CI [−31.8, −8.8], $p < 0.001$) but not at 5 years (effect: −3.4, CI [−17.2, 10.5], $p = 0.63$).

Conclusions

Androgen deprivation therapy plus radiation is associated with worse sexual function through 3-years follow-up in men with high-risk prostate cancer compared to radiation alone. The addition of androgen deprivation therapy in the treatment of intermediate-risk disease does not appear to result in worse sexual function at 3 or 5-year follow-up compared to radiation alone.

Prevalence and clinical impact of tumor BRCA1 and BRCA2 mutations in patients presenting with localized or metastatic hormone-sensitive prostate cancer | Prostate Cancer and Prostatic Diseases

nature.com

Christopher J. Sweeney

Abstract

Background

The appropriate management of localized or metastatic hormone-sensitive prostate cancer (HSPC) patients harboring tumor *BRCA* mutations (t*BRCAm*) is not well-characterized. We sought to evaluate the prevalence and clinical outcomes of patients with t*BRCAm* and localized or de novo metastatic HSPC.

Methods

We performed a multicenter, international, retrospective cohort study of localized (cohort 1) and de novo metastatic (cohort 2) HSPC patients who underwent tumor *BRCA1* and *BRCA2* sequencing from 2013 to 2019. Primary endpoints included event-free survival (EFS) and metastases-free survival (MFS) for cohort 1, and time to castration-resistant prostate cancer (TTCRPC) and overall survival (OS) for cohort 2. Kaplan–Meier method and Cox regression models estimated the association of endpoints with t*BRCA* status.

Results

Of 399 identified patients with localized and de novo metastatic HSPC who underwent tumor *BRCA1 and BRCA2* sequencing, 3.1% (8/258) patients of cohort 1 and 10.6% (15/141) patients of cohort 2 harbored *tBRCAm*. The median follow-up was 33 and 36 months, respectively. In cohort 1, median EFS was 18.1 vs. 57 months ($p = 0.28$) and MFS was 37 vs. 153.4 months ($p = 0.08$) for patients with *tBRCAm* compared to patients with no *tBRCAm*. In cohort 2, the TTCRPC was 24 vs. 19 months ($p = 0.65$) and OS was 64 vs. 60 months ($p = 0.95$) in patients with and without *tBRCAm*, respectively.

Conclusions

While *tBRCAm* seems to be associated with greater relapse risk in localized disease, *tBRCAm* did not influence the clinical outcomes of patients presenting with de novo metastatic HSPC treated with conventional therapies. *tBRCAm* may exert different prognostic effects across the clinical spectrum of prostate cancer.

New Standard for Metastatic Castration-Sensitive Prostate Cancer? | MedPage Today

medpagetoday.com

by Mike Bassett, Staff Writer, MedPage Today June 9, 2021

Meeting Coverage > ASCO

— Triplet regimen reduced the risk for radiographic progression or death, but OS data await

(Continued from page 20)

Hormonal therapies combined with chemotherapy significantly improved radiographic progression-free survival (rPFS) for men with de novo metastatic castration-sensitive prostate cancer (mCSPC), results from a phase III study showed.

In the PEACE-1 trial, the triplet therapy of abiraterone (Zytiga) plus androgen-deprivation therapy (ADT) and docetaxel extended rPFS by a median 2.5 years for these patients, and could be practice changing, reported Karim Fizazi, MD, PhD, of Institut Gustave Roussy in Villejuif, France.

"Regardless of overall survival [OS] results, this data question whether we should deny patients approximately 2 and a half years without radiographic progression or death, or whether combining ADT/docetaxel and abiraterone/prednisone should simply become the new standard of care," Fizazi said during a presentation at the virtual American Society of Clinical Oncology annual meeting.

He noted that the standard of care for mCSPC has rapidly evolved over the last several years. For example, when the PEACE-1 trial began accruing patients in 2013, ADT alone was the standard of care (SOC). But in the time since, the trend has been to combine ADT with docetaxel, novel hormone therapies, or radiotherapy to the primary tumor (for patients with low tumor burden), an approach that has increased survival and become the new standard.

The PEACE-1 trial included 1,173 patients with de novo mCSPC who received up to 3 months of ADT before randomization. These patients were randomized to receive SOC therapy alone, SOC and abiraterone plus prednisone, SOC plus radiotherapy to the prostrate, or SOC and abiraterone plus radiotherapy.

Due to the changing SOC during the accrual period of the trial, treatment was amended at several points. In 2015, it was changed to allow for docetaxel use according to the investigator's decision and patient's willingness to receive chemotherapy. And with the publication of the LATITUDE trial (which Fizazi led) and STAMPEDE, the protocol for PEACE-1 was amended to make docetaxel mandatory as part of SOC.

No interaction was seen between use of local radiotherapy and abiraterone on rPFS, which allowed the team to pool the two abiraterone arms for analysis, he explained.

SOC was ADT plus docetaxel for 710 patients and ADT alone for 463 patients. At 42 months, rPFS for the overall trial population favored the abiraterone arm (abiraterone plus SOC of ADT with or without radiotherapy) over the SOC arm (HR 0.54, CI 95% 0.46-0.60), for a median of 4.5 years versus 2.2 years, respectively, Fizazi reported.

And when analyzing the rPFS for the ADT-plus-docetaxel SOC population of 710 patients, the researchers found that abiraterone added to SOC also favored that arm (HR 0.50, CI 95% 0.40-0.62), with a median of 4.5 years rPFS compared with 2.0 years in the SOC arm.

"That difference is highly significant," Fizazi said. "Importantly, all tested subgroups pretty much benefited from the addition of abiraterone. This was true regardless of radiotherapy use, docetaxel use, and whatever the metastatic extension and sites, including men with visceral metastases."

Abiraterone also resulted in a "very clear and significant improvement" in secondary endpoints such as castration resistance-free survival for the overall population (HR 0.40, CI 95% 0.35-0.47) and ADT-plus-docetaxel group (HR 0.38 95% CI 0.31-0.47), Fizazi said.

He noted, however, that OS results at the time of presentation of the data were still immature and not able to be reported.

As for treatment safety, "it was very reassuring to see that abiraterone, even used concurrently with docetaxel, did not increase the risk of febrile neutropenia, or other hematological toxicities related to docetaxel," he added.

The discussant for the study, Lisa Horvath, PhD, MBBS, of the Sydney Cancer Center in Australia, compared the results with those of similar studies, such as ENZAMET, where she was a co-investigator.

"ENZAMET is the closest in that both of these studies used concurrent docetaxel with either abiraterone or enzalutamide [Xtandi], and stratified the use of docetaxel," she said. "The benefits are very similar. The difference is ENZAMET has met its interim analysis for overall survival, and found no benefit in triplet therapy."

"Further follow-up from both these studies and data from the ARASENS study are going to be critical to decide where this treatment falls within our standard of care," Horvath added.

(Continued from page 21)

When asked how the new results could change treatment, Fizazi pointed out that 10 years ago an mCSPC patient typically had a 1-year rPFS on ADT alone. That was prolonged with the addition of docetaxel to about 2 years, and now has been extended to 4.5 years with the triplet approach.

"I will be keen to see the overall survival data," he said. "But I guess that even if overall survival is similar between the two arms, and we don't have cumulative toxicities with the triplet treatment, then I think we should consider changing our standard treatment for those patients, given that 2 and a half years is just big."

Long-term overall survival of radical prostatectomy patients is often superior to the general population: A comparison using life-table data - Würnschimmel - - The Prostate - Wiley Online Library

Christoph Würnschimmel MD, Mike Wenzel MD, BSc, Nuowei Wang, Zhe Tian MSc, Pierre I. Karakiewicz MD, Markus Graefen MD, Hartwig Huland MD, Derya Tilki MD

First published: 08 June 2021

https://doi.org/10.1002/pros.24176

Abstract

Background

To examine overall survival rates within a large cohort of German prostate cancer (PCa) patients and to compare these with life-expectancy (LE) predictions derived from German life tables. We hypothesized that the advantage of good general health in radical prostatectomy (RP) patients combined with favorable cancer outcomes might lead to even higher overall survival rates over 10 years compared to the LE of a general population.

Methods

A total of 6483 patients were treated with RP between 1992 and 2007 at the Martini-Klinik Prostate Cancer Center. Preoperative risk classification was performed according to D'Amico. Postoperative risk classification was performed according to the Cancer of the Prostate Risk Assessment score (CAPRA-S). A simulated cohort was created that resembled the exact age distribution of the RP population using Monte Carlo simulation which was based on data derived from official male German life tables (1992–2017). Markov chain was used to represent natural age progression of the simulated cohort. Kaplan–Meier plots were created to display the differences between 10-year observed overall survival (OS) and the simulated, predicted LE.

Results

For D'Amico low risk and intermediate risk, 10-year OS was 12.0% and 9.2% above predicted LE in the simulated cohort, respectively. For D'Amico high risk, OS was virtually the same as predicted LE (0.8% difference in favor of RP treated patients). For CAPRA-S low and intermediate risk, OS was 11.8% and 9.7% above predicted LE. For CAPRA-S high risk, OS was virtually the same as predicted LE (0.3% difference in favor of the simulated cohort).

Conclusions

Low- and intermediate risk PCa patients treated with RP can expect a very favorable overall survival, that even exceeds LE predictions. High risk patients' overall survival perfectly aligns with LE predictions.

ro-journal.biomedcentral.com

Phase II study of stereotactic body radiotherapy with hydrogel spacer for prostate cancer: acute toxicity and propensity score-matched comparison

Keiichi Nakagawa

Radiation Oncology **volume 16**, Article number: 107 (2021) Cite this article

Abstract

Background

The efficacy of a hydrogel spacer in stereotactic body radiotherapy (SBRT) has not been clarified. We evaluated the safety and efficacy of SBRT in combination with a hydrogel spacer for prostate cancer.

Methods

(Continued from page 22)

This is a prospective single-center, single-arm phase II study. Prostate cancer patients without lymph node or distant metastasis were eligible. All patients received a hydrogel spacer insertion, followed by SBRT of 36.25 Gy in 5 fractions with volumetric modulated arc therapy. The primary endpoint was physician-assessed acute gastrointestinal (GI) toxicity within 3 months. The secondary endpoints were physician-assessed acute genitourinary (GU) toxicity, patient-reported outcomes evaluated by the EPIC and FACT-P questionnaires, and dosimetric comparison. We used propensity score-matched analyses to compare patients with the hydrogel spacer with those without the spacer. The historical data of the control without a hydrogel spacer was obtained from our hospital's electronic records.

Results

Forty patients were enrolled between February 2017 and July 2018. A hydrogel spacer significantly reduced the dose to the rectum. Grade 2 acute GI and GU toxicity occurred in seven (18%) and 17 (44%) patients. The EPIC bowel and urinary summary score declined from the baseline to the first month ($P < 0.01$, < 0.01), yet it was still significantly lower in the third month ($P < 0.01$, $P = 0.04$). For propensity score-matched analyses, no significant differences in acute GI and GU toxicity were observed between the two groups. The EPIC bowel summary score was significantly better in the spacer group at 1 month (82.2 in the spacer group and 68.5 in the control group).

Conclusions

SBRT with a hydrogel spacer had the dosimetric benefits of reducing the rectal doses. The use of the hydrogel spacer did not reduce physician-assessed acute toxicity, but it improved patient-reported acute bowel toxicity.

Trial registration: Trial registration: UMIN-CTR, UMIN000026213. Registered 19 February 2017, https://upload.umin.ac.jp/cgi-open-bin/ctr_e/ctr_view.cgi?recptno=R000029385.

New hormone treatment for advanced prostate cancer made available in England - Cancer Research UK - Cancer news

news.cancerresearchuk.org

Men with advanced, hormone-sensitive prostate cancer will now have another treatment option in England, following the approval of the hormone therapy enzalutamide (Xtandi).

The National Institute of Health and Care Excellence (NICE) has approved the combination of enzalutamide and androgen deprivation therapy (ADT) for adults with hormone-sensitive prostate cancer that's spread to other parts of the body (metastatic prostate cancer).

Kruti Shrotri, Cancer Research UK's head of policy, said the decision was "good news" for those who could benefit from this treatment.

"Patients and clinicians told NICE that people with this type of prostate cancer have limited treatment options and would welcome the option of treatment with enzalutamide. This is especially positive for people who cannot have chemotherapy or choose not to have it due to its potential impact on quality of life."

New options needed

Right now, people with hormone-sensitive prostate cancer that's spread are treated with either ADT alone or in combination with chemotherapy and steroids.

But some people choose not to have chemotherapy. According to the NICE appraisal, around 2 in 3 people with hormone-sensitive metastatic prostate cancer take ADT alone – either because they're not fit enough to take chemotherapy or choose not to because of the potential side effects.

Patient experts explained to the NICE committee that people may have no or few symptoms when they're first diagnosed with metastatic prostate cancer. And some feel that chemotherapy treatment has too big an impact on their quality of life and may choose to take ADT alone, even though the long-term outcomes may be worse.

Clinical and patient experts agreed that new options – like enzalutamide – are needed.

Enzalutamide blocks testosterone from reaching prostate cancer cells, slowing cancer growth. Combining enzalutamide with ADT is a better tolerated treatment than chemotherapy and ADT. And clinical trial results show that it's more effective than ADT alone, making it a useful alternative.

Enzalutamide is also an oral therapy, so is more convenient to take than the chemotherapy docetaxel, which is administered intravenously.

(Continued from page 23)

Improving progression free survival

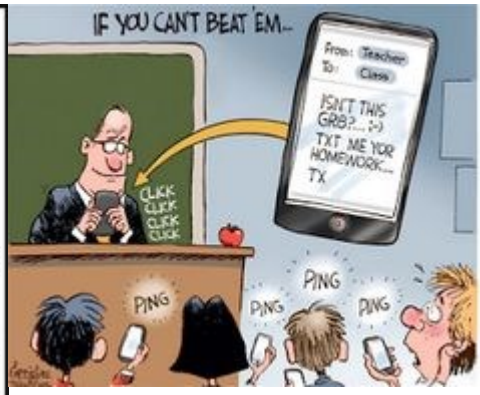
Two large clinical trials have looked at the effectiveness of enzalutamide and ADT for treating hormone-sensitive prostate cancer that's spread to other parts of the body.

People taking enzalutamide plus ADT lived without their cancer growing significantly compared with those taking docetaxel plus ADT. But whether the treatment improves survival overall is unclear based on current data

Despite this uncertainty, the treatment was considered cost-effective for use in the NHS by NICE and will now be an option on the NHS in England. NICE decisions are usually adopted in Wales and Northern Ireland as well, so the decision is likely to affect patients in all 3 nations. Scotland has a separate process for reviewing drugs.

Lighter Side

"Do you want the instructions?"



"I'll give you something to ease the pain."

"I thought you were finished!"

Ok, that's the bait, now where are the ants