Informed Prostate Cancer Support Group Inc.
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February 2020 NEWSLETTER

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

We Meet The Third Saturday of Each Month
(except December)

Monday, February 10,

Volume 13 Issue 02

Next Meeting: February 15, 2020 - Round Table Member Panel
10:00am—12:00 @ Sanford Burnham Prebys Medical Discovery Institute Auditorium
A panel of members will discuss their experiences, what treatments they choose, how they are doing today, and pass along their lessons learned. Then the group will break-out into sessions by treatment type (Active Surveillance, Surgery, ADT, Radiation, Chemo) for networking. This is when you can get all your questions answered by other members who are currently going through treatment, or have had treatment. All areas related to prostate cancer will also be discussed.

- **For further Reading: https://ipcsg.blogspot.com/**
- **For Comments, Ideas and Questions,** email to Newsletter@ipcsg.org

January 2020 Informed Prostate Cancer Support Group Meeting:

Advances in Radiation Therapy

By Arno J. Mundt MD FACRO FASTRO, John Einck MD FACRO and Brent Rose MD

Department of Radiation Medicine & Applied Sciences, UC San Diego and California Proton Therapy Center

Summary by Bill Lewis

Dr. Mundt began with an overview of prostate cancer (PCa) treatments. Surgery is now often done by robotic assistance, which he parenthetically noted makes possible remote surgeries where the surgeon is not in the same room – or continent – as the patient. Hormone therapy includes ADT (androgen deprivation therapy) and chemotherapies. Radiation treatments can be given externally by photon or proton beams, or internally by "brachytherapy" – permanent or temporary introduction of radioactive "seeds" into the prostate. When radiation is given without surgery, it is called definitive treatment. It is called adjuvant treatment if it follows surgery.

When definitive external beam radiation treatment (EBRT) is given – either by photons (X-rays) or protons – it can be given in different numbers of doses, referred to as fractionation. Conventional fractionation involves small daily doses over about 8 weeks. Hypofractionation accelerates the treatment with moderate daily doses over 5-6

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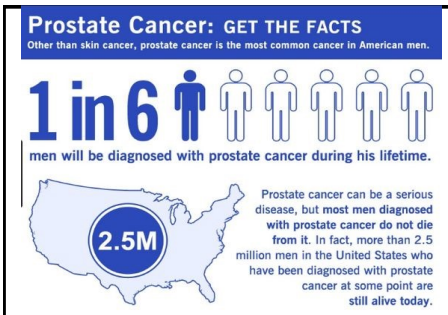

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a 501c3 non-profit organization - all positions are performed gratis

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NEWSLETTER
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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.

Be your own health manager!!

Meeting Video DVD's

DVD's of our meetings are available in our library for $10ea. Refer to the index available in the library. They can also be purchased through our website: http://ipcsg.org Click on the 'Purchase DVDs" tab.

The DVD of each meeting is available by the next meeting date.

From the Editor

In the Newsletter this Month

Last month Dr. Mundt, Dr. John Einck, and Dr. Brent Rose gave interesting talks on various aspects of radiation therapy, and their talks are summarized by Bill Lewis.

Another busy month in the Prostate Cancer field yielded many articles of interest which could not be included, but linked on **https://ipcsg.blogspot.com/**. Three we've included are:

- Harvard Blog Article discussing whether immediate radiation should be given after surgery if there is negative pathology.
- How to choose and sequence treatments for metastatic PCa.
- A discussion of Bryce Olson and the role UCSD Moores Genomics played in giving him precision treatment for advanced PCa.

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** Lyle LaRosh @ 619-892-3888; **Vice President** Gene Van Vleet @ 619-890-8447; or **Meeting facilitator** George Johnson @ 858-456-2492.

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weeks. And SBRT (stereotactic body radiation therapy) gives high doses daily over one week.

In some cases, EBRT (protons or photons, with conventional fractionation) is combined with brachytherapy (permanent or temporary seeds), giving better cancer control or cure. Definitive radiation therapy is also often combined with a period of hormone therapy to good effect.

Adjuvant radiation therapy is always given by EBRT (photons or protons, with only conventional fractionation used up until now). Brachytherapy cannot be used, since there is no longer a prostate present in which to introduce seeds.

Salvage RT (radiation therapy) is adjuvant RT given to patients with a rising PSA (which indicates that not all of the cancer was removed by the surgery). Salvage RT may be combined with hormone therapy.

Dr. Mundt also provided information about an improved machine for delivering radiation treatments, called Ethos, from Varian. It is able to not only scan for daily variation in the position of the prostate (due to gas in the rectum or urine in the bladder) during a series of treatments, it can also adjust for variations in the shape of the prostate and seminal vesicles. Whereas current machines can adjust for position, they can't routinely adjust to changes in shape. Current EBRT has to add "margins" to ensure treatment despite these changes. This increases the dose that the bladder and rectum receive, leading to side effects. The new Ethos machine, which will be installed at UCSD in July 2020, will be able to do rapid adaptive RT calculations in 3-5 minutes, with total treatment time under ten minutes. Another advancement is the use of artificial intelligence (AI) to generate treatment plans in a few minutes versus over several days, which will significantly reduce the time interval between planning and first treatment – theoretically allowing next-day start dates.

Dr. John Einck has extensive experience with photon, proton and brachytherapy radiation modalities, and works both at UCSD and at California Protons. He is also president of an international charity that brings radiation machines to areas of the world such as Nepal and parts of Africa where this technology is not otherwise available, but is especially needed to treat cervical cancer.

Dr. Einck discussed how treatment is individualized by a doctor, by presenting a specific case. A 59-year-old man had Gleason 8 PCa, so was considered high risk. He had a tumor near the apex of the prostate, that was bulging into the neurovascular bundle of the prostate. The National Comprehensive Cancer Network (NCCN) provides guidelines for doctors to refer to, including a number of options they can choose.

Dr. Einck uses "nomograms" that are available at Sloan Kettering (MSKCC/nomograms/prostate). The patient's info/data is entered, and it predicts the likelihood of recurrence after surgery, and the likelihood of extraprostatic extension, seminal vesicle involvement and spread to lymph nodes. For the patient under discussion, his 15-year survival expectancy was 97%. Surgery was not a good option, as his likelihood of remaining cancer-free was only 42% after 5 years, and 27% after 10 years. In this patient, there was a 72% chance that the cancer was already outside the prostate.

The common saying that you can have radiation after surgery, but not vice versa, is a marketing tactic, according to Dr. Einck. Radiation works better, so there is a low likelihood of needing surgery after radiation, but a substantial likelihood of needing radiation after surgery. Dr. Einck offered this patient 12 months of ADT (hormone therapy) – despite the side effects it brings, because it would greatly improve the cure rate. He proposed 5 weeks of proton therapy to the whole pelvis, since the risk of lymph node involvement was 20% (from the nomogram). He further proposed permanent seed implants (using iodine-125, since Dr. Einck trained with this isotope).

He showed data for 183 patients at UCSD from 1995 -2013 who were high risk. They gave ADT to 90% of them, along with radiation. He noted that those with two "high risk factors" vs. only one, fared significantly worse. The high risk factors are PSA >20, Gleason >7, and "bulky disease" (extending outside the prostate). Whereas almost 90% of those with one factor remained cancer-free after 10 years, only just over 60% did as well if they had two factors. So that led to the use of brachytherapy in addition to external radiation.

He chose proton therapy for the patient because the protons stop at a predetermined depth. External beam radiation gives its maximum dose at about 3 cm depth, but there is considerable dose all the way through to the exit point. Patients requiring lymph node treatment (i.e., high-risk patients) may benefit from proton beam because of less diarrhea during treatment, a lower bladder dose (near zero for protons, but about 50% dose with photons), and less risk of a second malignancy (1/2000 at 25 years with protons, but less with photons). The lymph nodes fall along the sides of the pelvis, with small intestine, bladder and rectum in between. The protons

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are introduced from the sides, and stop upon reaching the targeted lymph nodes.

Dr. Einck also favors use of protons when the seminal vesicles need treatment, and for post-prostatectomy "salvage" radiation.

He does "low dose rate" (LDR) brachytherapy using permanent seeds (which can be attractive since it is a "one and done" two hour surgical procedure), but refers certain (see below) patients to UCLA where temporary needles are used to provide "high dose rate" (HDR) treatment. Randomized trials of using brachytherapy "boosts" after radiation in the UK (with temporary seeds) and in Canada (with permanent seeds and 12 months of ADT) both showed a significant benefit in preventing or delaying return of the cancer. However, there are additional risks of side effects with the combined therapy, including urinary strictures that may need surgery, and slightly more rectal damage.

Use of brachytherapy, either alone or following radiation, gives less negative impact on sexual function than external radiation alone. Note that if a brachytherapy boost is planned, a lower dose of external radiation is given, so that's how the patient can end up with better sexual function despite "some" external radiation.

To be a good candidate for permanent-seed brachytherapy, a patient needs to have a prostate size between 15 and 50 cc, no seminal vesicle invasion, and no severe lower urinary tract symptoms (such as very frequent night/day urination or a weak stream). Temporary seeds can be used to treat men with seminal vesicle invasion and can more easily be used to give a higher dose of radiation to an area of the prostate that needs it. Temporary seeds also have the advantage of not giving radiation exposure to others, which is particularly important if there are small children or grandchildren in the home. Permanent seeds emit enough radiation to be of concern within 3 feet, for six months.

Conclusions: Offering a wide variety of radiation therapy options permits individualizing treatment both to the patient's prostate cancer and in consideration of his own goals. Proton therapy is advantageous when treating lymph nodes, for post-prostatectomy salvage or in younger men (less chance of another cancer eventually arising). Brachytherapy should be considered on its own merits and because it improves cure rates for patients with unfavorable prostate cancer who receive external radiation.

Dr. Einck also discussed the SpaceOar gel, which is a material injected between the prostate and the rectum, that pushes them apart so that external radiation to the prostate does not overlap much to the rectum. In the example patient shown, the radiation dose to the rectum was reduced from 100% to 30% of the dose to the prostate, preventing rectal problems. The gel stays for three months, then is naturally absorbed by the body.

Dr. Brent Rose discussed Oligometastic Prostate Cancer radiation therapy: treatment of isolated tumors outside the prostate, with focused radiation. There has been a dramatic change in the past 3-5 years, to begin and now to regularly use such treatments. This group helped significantly to promote the use of this approach here in San Diego, by being their own case managers and asking for it.

Oligometastatic PCa is commonly described as 5 or fewer non-pelvic lymph node or bone metastases, without disease in the soft tissues like the liver or lung.

The STAMPEDE trial studied 2000 newly-diagnosed men with metastatic disease, who were given radiation to just the prostate. In those whose disease was oligometastic, there was a greatly reduced tendency for the PSA to rise again, and a dramatic improvement in survival. If there were more than ten metastases, the treatment really didn't help very much.

To further improve the results for those with oligometastatic disease, SBRT (stereotactic body radiotherapy) is now used to give one to five high-dose treatments very precisely targeted at the spots outside the prostate. Typically, short-term side effects are minimal, and long-term side effects are even more rare – but can be serious. This was studied in the "STOMP" trial, which showed that the need for hormone therapy could be delayed somewhat, and it was not needed at all in 30% of the men. In the SABR-COMET trial, 99 men with various cancers that were oligometastatic were randomized to SBRT or observation. Average survival was increased from 28 months to 41 months (this study included men with fast-growing types of cancer, not just PCa). However, three men died of causes that were thought to possibly be related to the treatment.

When a new metastatic tumor arises after prior treatment, it is now often treated with SBRT. This usually leads to a reduction in PSA, and, surprisingly, often helps "castrate resistant" patients become hormone-sensitive again, thus avoiding the need for chemotherapy or other advanced treatments.

How to detect the lesions to be treated? Bone scans are not very sensitive for cancer and often show old fractures and other non-cancer spots. C-11 PET is better than bone scans but is not used very often because it

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is not widely available. Axumin-PET and PSMA-PET (not yet FDA approved, but available through studies at UCLA and UCSF) are the most common new imaging modalities. At UCSD, whole-body MRI has been developed and is useful (but see Q&A below regarding results reporting).

New directions: A multidisciplinary clinic is beginning, for high risk and oligometastatic patients with prostate cancer, with Dr. Rose, Dr. Rana McKay and Dr. Kelly Parsons at UCSD. This puts different medical specialties into "the same room" to optimize patient care. UCSD has clinical trials including the Whole Body MRI trial, advanced hormonal therapy trials, genomic focused personalized medicine and targeted therapies like PARP inhibitors. As mentioned above, the new Varian Ethos treatment machine is coming soon to UCSD, and will help improve targeting in sensitive areas of the body. Proton therapy is another increasingly used treatment for certain situations, depending on the patient.

Dr. Rose concluded by asking "What can you do?" Be your own advocate! Ask questions! If you only have a bone scan, should you be getting a PET or whole body MRI? Did your physician discuss SBRT? It's standard practice, not just experimental. Make sure your physician understands your goals. For example, do you want to use SBRT to avoid ADT or with ADT to maximize your chance of controlling your disease?

Questions:

Time to cure, and dealing with "bumps on the road"? The nadir of the PSA after external radiation may not occur for two or three years. If it ever rises more than two points above its lowest value, the patient is considered to have residual or recurrent disease. After brachytherapy, Dr. Einck doesn't make any decisions about whether the patient is cured, for three years, because there is often a "PSA bounce" about 18 months after the seeds are implanted – especially with the I-125 isotope – that can be more than two points of rise, but that gradually goes away. After salvage radiation, it may take up to a year to reach the nadir. After a prostatectomy, the PSA should be zero, or the surgeon didn't get it all.

After a prostatectomy (including a lymph node), a member, Joel, had PSA at 0.01 that rose in 3 months to 0.05. Dr. Einck said that this indicates that there is cancer present, and normal treatment would be radiation to the pelvis, along with ADT. Given that there was a diseased lymph node, he would have already scheduled pelvic radiation. However, usually radiation is postponed until continence returns, usually about 6 months after surgery. ADT could start sooner, and is normally started two months before the radiation treatments start.

Is it possible to obtain a report after whole-body MRI at UCSD? Since it's experimental – not yet FDA approved – there won't be an official report because of FDA regulations. But you can get a verbal report.

Is survival reported from first diagnosis, or from the end of treatment? It is calculated from entry into the clinical trial. Survival reports indicate the time at which half of the original cohort has died. Many may live much longer.

Would a PSMA scan add useful information beyond a locally-provided Axumin scan and MRI? Perhaps. But the chances are small.

What about Lupron and dementia? The data is a little conflicting, but the most rigorous studies don't show an increase in new dementia. However, there do seem to be definite cognitive effects, such as forgetfulness and less ability to concentrate. Short-term ADT may allow fewer side effects compared to longer-term therapy.

Is it appropriate to let the PSA rise to where you can see where it is, on recurrence? Studies definitely show that radiation gives better results the lower the PSA is. And then the patient may not need ADT with it.

Use of Xofigo? Only for cancer that has spread to the bone, in multiple spots, where external radiation would not be effective.

Note: Only 0.7% of radiation treatments last year in the US were done using proton therapy.

More details are given in the video of this presentation, including the PowerPoint slides, which will be available for purchase via the website shortly before the next meeting, or at the February meeting on the 15th.

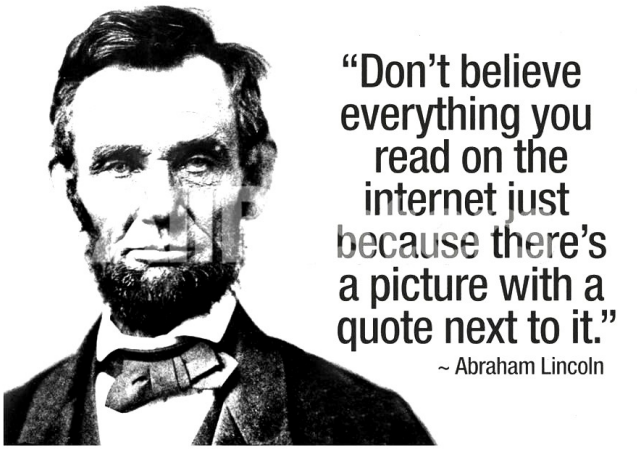
Member Suggested Items:

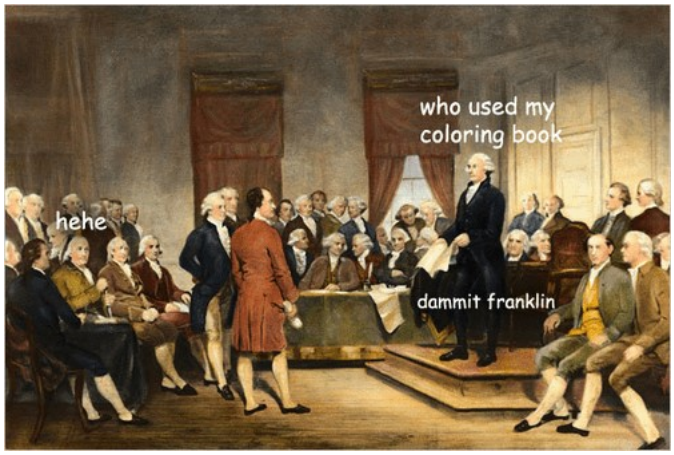
F*rom Joel Pointon:*

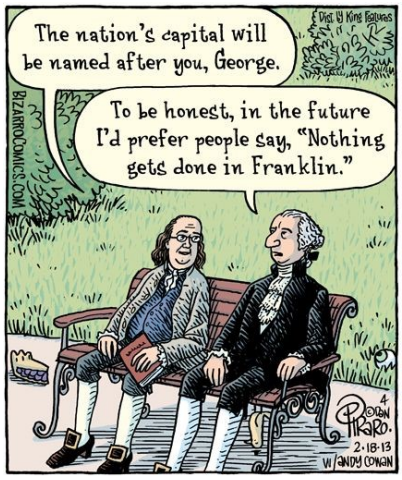
GoodRX.com—My Primary Care Doctor at Sharp told me about it when I found a 30 day supply of a medication to be $400 with insurance at CVS....but less than $60 for the same drug and a 90 day supply via a mail-order pharmacy. I have also found Pricing at 25% at a Walgreen's across the street from my CVS.

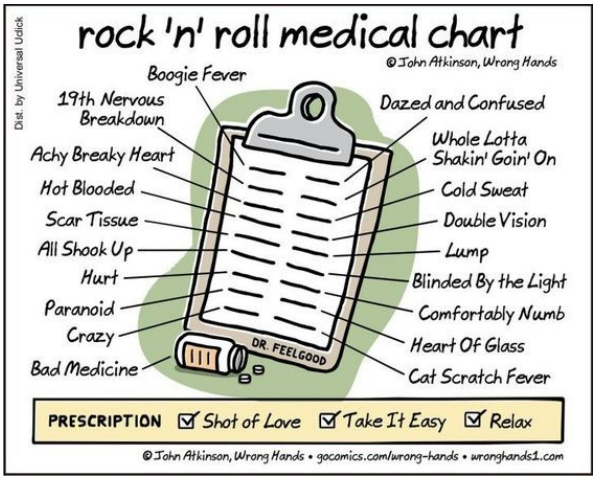
Prostate Cancer Foundation - Wellness Guide
https://res.cloudinary.com/pcf/image/upload/v1567177703/PCF-WellnessGuide-Single-Med_f4q1m0.pdf

On the Lighter Side









Articles of Interest

Most men can hold off on radiation after prostate cancer surgery - Harvard Health Blog

Charlie Schmidt

health.harvard.edu
https://www.health.harvard.edu/blog/most-men-can-hold-off-on-radiation-after-prostate-cancer-surgery-2019120218509

Decisions about follow-up care after prostate cancer surgery sometimes involve a basic choice. If the cancer had features that predict it could return, doctors will likely recommend radiation therapy. But when should a man get that treatment? Should he get the radiation right away, even if there's no evidence of cancer in the body (this is called adjuvant radiation)? Or should he opt for "salvage" radiation, which is given only if his blood levels of prostate-specific antigen (PSA) begin to climb? Since prostate cancer cells release PSA, the levels should be nondetectable after surgery. If they increase, that means the cancer has begun to metastasize, or spread.

Now preliminary findings from a European clinical trial show that for many men, waiting can be a safe bet.

Called the RADICALS-RT trial, this is the largest study yet of adjuvant versus salvage radiation for prostate cancer. In all, nearly 4,000 men have been enrolled, all of them with features that predict an intermediate or high risk of recurrence, such as aggressive cancer cells in the tumor, pre-operative PSA levels in excess of 10 nanograms per deciliter, or positive surgical margins (residual cancer cells in the tissues surrounding the area where the prostate used to be). One group of men received adjuvant radiation while their PSA was undetectable, and the other group got salvage radiation if PSA levels spiked by at least 0.1 ng/dL during two consecutive measurements.

Similar outcomes

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Five-year data are now available for a subset of 1,396 men, and they show no significant difference between the groups in terms of the cancer spreading, PSA levels rising over 0.4 ng/dL (a threshold that prompts other drug treatments), or death from prostate cancer. Furthermore, 75% of the men who were initially assigned to the adjuvant group had yet to go on salvage radiation, since their PSA values had not increased. Importantly, the RADICALS-RT data were also combined with those from two other ongoing studies in this area for a broader review (called a meta-analysis) that reached a similar conclusion.

Prostate cancer tends to grow slowly, and it will be years before final results show if either strategy is associated with better survival in the long run. But in the meantime, the new evidence "apparently shows that that you can wait on radiation," said Dr. Marc Garnick, Gorman Brothers Professor of Medicine at Harvard Medical School and Beth Israel Deaconess Medical Center, and editor in chief of HarvardProstateKnowledge.org.

An important question, Dr. Garnick said, is how high the PSA should go before salvage radiation gets underway. Expert guidelines previously recommended 0.2 ng/dL. But Dr. Garnick said he would start radiation as soon as he detects *any* increase in PSA that's revealed by ultrasensitive measurement tools. And he continues to recommend adjuvant radiation for the highest-risk patients, including those with positive surgical margins and cancer that was spreading into nearby tissues prior to surgery.

Dr. Garnick cautioned that any form of radiation can exacerbate urinary incontinence and erectile dysfunction after surgery, and he recommended waiting at least six months after the operation before initiating it. "The encouraging aspect of this new analysis is that many men can avoid radiation and its side effects by intervening only when the PSA becomes detectable," he said.

Hormonal Therapy or Chemotherapy for Metastatic Prostate Cancer — Playing the Right CARD

Emmanuel S. Antonarakis

Since 2004, eight therapeutic agents have received approval from the Food and Drug Administration for the treatment of men with advanced prostate cancer.

Four are androgen-signaling–targeted inhibitors that impair androgen-receptor function (

1. abiraterone,
2. enzalutamide,
3. apalutamide, and
4. darolutamide),

two are taxane chemotherapies that suppress microtubule dynamics (

1. docetaxel and
2. cabazitaxel),

one is a bone-targeted α-emitting radiopharmaceutical agent (radium-223), and

one is an autologous cell–based immunotherapy (sipuleucel-T).[1]

The pivotal trials for these agents generally compared the new therapy with placebo or a non–life-prolonging treatment and were designed primarily to satisfy regulatory requirements for drug approval, thus preventing insights about comparative efficacy or appropriate treatment sequencing in individual patients with castration-resistant prostate cancer.

Until recently, sequential androgen-signaling–targeted treatment (e.g., abiraterone followed by enzalutamide, or vice versa) has often been advocated over taxane-based chemotherapy after failure of the first-line treatment, owing to ease of administration of oral compounds and the perception that the efficacy and safety of these agents compared favorably with taxanes. Although in the context of first-line therapy 60 to 70% of patients with metastatic castration-resistant prostate cancer will benefit from initial androgen-signaling–targeted treatment for a median of 12 to 18 months, 30 to 40% of patients will not have a favorable response. Preliminary data indicated that the efficacy of sequential androgen-signaling–targeted treatments in patients no longer benefiting from the initial agent was modest and short-lived, suggesting clinically significant cross-resistance between different androgen-signaling inhibitors.[1] Retrospective analyses suggested that the magnitude and duration of response to initial androgen-deprivation treatment and first-line androgen-signaling inhibitors were among the clinical factors with the strongest association with outcomes in the context of second-line therapy for castration-resistant prostate cancer.[2] Preclinical evidence identified a number of primary and acquired mechanisms of resistance, including the presence of activating androgen-receptor mutations and splice variants, androgen-receptor–bypass signaling pathways, and various other

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androgen-receptor–independent processes that have been associated with resistance.[3]

In this issue of the *Journal*, de Wit and colleagues[4] report the results of the CARD trial, which involved patients with metastatic castration-resistant prostate cancer previously treated with docetaxel and either abiraterone or enzalutamide. Patients with evidence of rapid disease progression (<12 months) while receiving a first-line androgen-signaling inhibitor were randomly assigned to receive either cabazitaxel or the alternative androgen-signaling inhibitor (abiraterone or enzalutamide). The primary trial end point was investigator-assessed imaging-based progression-free survival, which is similar (but not identical) to radiologic progression-free survival, an end point that has been correlated with overall survival in a randomized, phase 3 trial of abiraterone in the context of first-line therapy for metastatic disease.[5] The CARD trial met its primary end point. With a median follow-up time of 9.2 months, the median imaging-based progression-free survival was 8.0 months with cabazitaxel, as compared with 3.7 months with the alternative androgen-signaling inhibitor (hazard ratio for imaging-based progression or death, 0.54; 95% confidence interval, 0.40 to 0.73; P<0.001). All secondary end points were also improved with cabazitaxel as compared with sequential androgen-signaling inhibitor therapy, including survival, prostate-specific antigen responses, tumor responses, pain responses, and incidence of skeletal events. The incidence, type, and severity of adverse events with both classes of agents were consistent with previously reported experiences.[1,6]

The CARD trial shows convincingly that cabazitaxel is the preferred therapeutic option over second-line androgen-signaling inhibitors in patients with metastatic castration-resistant prostate cancer who had rapid disease progression while they were receiving first-line androgen-signaling inhibitors, and hence these results are practice-changing. However, it should be noted that the median durations of response to initial androgen-deprivation therapy and to first-line androgen-signaling inhibitors treatment in this group of patients were quite short: approximately 12 to 13 months in the context of initial androgen-deprivation therapy and approximately 6 months in the context of first-line androgen-signaling–inhibitor therapy. These results imply that this subgroup of patients was likely to have a clinically significant degree of intrinsic or acquired resistance to subsequent androgen-signaling inhibitors.

Can it be concluded, then, that cabazitaxel is the preferred treatment for all patients with metastatic disease after receipt of a first-line androgen-signaling inhibitor, including patients who have had durable responses to initial treatment? Probably not. Although outcomes with second-line androgen-signaling inhibitors are generally worse for most (but not all) patients, the selection of potential candidates that could benefit from this sequential approach remains challenging. The choice between an androgen-signaling inhibitor and cabazitaxel in a more favorable subgroup of patients (e.g., those with a response to first-line androgen-signaling inhibitors for >18 months, especially before the receipt of chemotherapy) may rely on patient and physician preferences, as well as on appropriate use of biomarker assessments.

Figure 1.

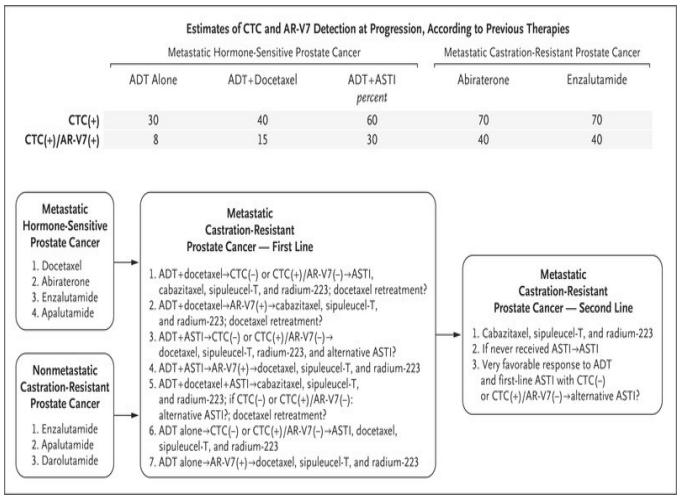

Figure 1. Schematic Representation of the Therapeutic Landscape and Treatment Choices for Patients with Advanced Prostate Cancer.

Shown are the estimates of detection of circulating tumor cells (CTC) and androgen receptor splice variant 7 (AR-V7) at progression (with the use of AdnaTest; assistance with estimates was provided by J. Luo of Johns Hopkins University), according to disease state and treatment. The presence or absence of AR-V7 has been incorporated into our proposed algorithm. Although the benefit of docetaxel retreatment has not been adequately studied, it may be considered if the initial treatment was completed more than 12 months before disease progression. A plus or minus sign within parentheses indicates a positive or negative result, respectively. ADT denotes androgen-deprivation therapy, and ASTI androgen-signaling–targeted inhibitor.

For example, circulating tumor cell–based detection of androgen-receptor splice variant 7 (AR-V7) in patients with metastatic castration-resistant prostate cancer is

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strongly associated with negative outcomes with androgen-signaling inhibitors[7] and with potential preferential sensitivity to taxane agents.[8,9] Analysis of AR-V7 in circulating tumor cells obtained from men with prostate cancer is contingent on the detection of circulating tumor cells and cannot be evaluated in all patients (Figure 1). Forthcoming biomarker information obtained from patients in the CARD trial (de Wit R: personal communication), including AR-V7 status in circulating tumor cells, will undoubtedly provide important insights that could not only affect the assessment of outcomes in this trial but may also provide additional clarity regarding the selection of appropriate subsequent therapy.

The CARD trial provides guidance regarding treatment selection and sequencing in patients with metastatic castration-resistant prostate cancer. It shows that cross-resistance between agents targeting the androgen receptor is a factor that is likely to have a substantial effect on the planning of future research examining systemic treatments in patients with this disease. This presents a considerable dilemma, since we now have four androgen-signaling inhibitors that have been approved (abiraterone, enzalutamide, apalutamide, and darolutamide). Further adding to this complexity, some of these agents are also (or only) approved for the treatment of nonmetastatic (rather than metastatic) prostate cancer, and some are also approved for the treatment of metastatic hormone-sensitive prostate cancer. Thus, abiraterone, enzalutamide, apalutamide, and darolutamide may be used for the treatment of men in clinical states that precede the development of metastatic castration-resistant prostate cancer (Figure 1). Given the results of the CARD trial, it would seem that men treated with androgen-signaling inhibitors before the development of castration-resistant prostate cancer are not likely to benefit from this class of drugs if used subsequently. Similarly, docetaxel is now widely used for the treatment of men with metastatic hormone-sensitive prostate cancer, which leaves two broad choices (androgen-signaling–targeted inhibitors or cabazitaxel) at the time of progression after the administration of docetaxel therapy. Figure 1 shows how recent practice-changing therapeutic advances involving clinical states preceding the development of metastatic castration-resistant prostate cancer may affect treatment choices (as well as future research).

As we proceed in the development of new treatment strategies for prostate cancer in the era of precision oncology, we anticipate that genomic biomarkers (rather than clinical criteria alone) will more adequately inform treatment decisions in clinical practice.[1] In addition, the introduction of more sensitive, prostate cancer –specific imaging methods[10] will probably require a redefinition of clinical states and a reexamination of pathways for the approval of new drugs in prostate cancer.

Bryce Olson Wants To Raise Awareness About Precision Medicine. His Rallying Cry: 'Sequence Me'

forbes.com

ZINA MOUKHEIBER APR 5, 2018, 08:00AM

Bryce Olson looked up his prognosis on Google. He had, give or take, 21 months to live. A year earlier, in 2014, he was diagnosed with metastatic prostate cancer at the age of 44. Olson underwent standard therapy: removal of the prostate gland, followed by six rounds of chemotherapy that left him with mouth sores and numbness in his feet. His cancer was briefly in check, before resurfacing in early 2015. "I thought I won't see my daughter, who's in elementary school, grow," he says.

Fast forward to 2018, and Olson is alive. Ignoring his prognosis, he orchestrated his own treatment by assembling a team of scientists, requesting to have his genome sequenced and seeking out targeted therapies. His job as global head of marketing for health and life sciences at Intel gives him a mighty platform to advocate for precision medicine. He gives talks at healthcare conferences, sporting on occasion a black t-shirt emblazoned with the words "Sequence Me," but Olson also tries to raise awareness by reaching out to a wider audience. He's composed songs, such as "Sequence" and "A Better Way;" a video recording of one of his songs garnered more than 30,000 views within two weeks on Facebook.

Researchers at UC San Diego Moores Cancer Center and the Translational Genomics Research Institute have been eager to help, by donating time and effort. "To do genomics we need people to work with us, not a bunch of mice," says Ida Deichaite, director of industry relations at UCSD Moores Cancer Center.

Genomic sequencing tests that identify genetic alterations can cost thousands of dollars. Insurers are slowly beginning to cover them. Last month, Medicare announced it will pay for sequencing tests, such as Foundation Medicine's FDA-approved FoundationOne CDx, which has a list price of $5,800. Coverage is only for patients with late stage cancer. This will allow oncologists to prescribe more targeted treatments, if available, or help patients enroll in matching clinical trials.

NETWORKING

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

Member and Director, 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

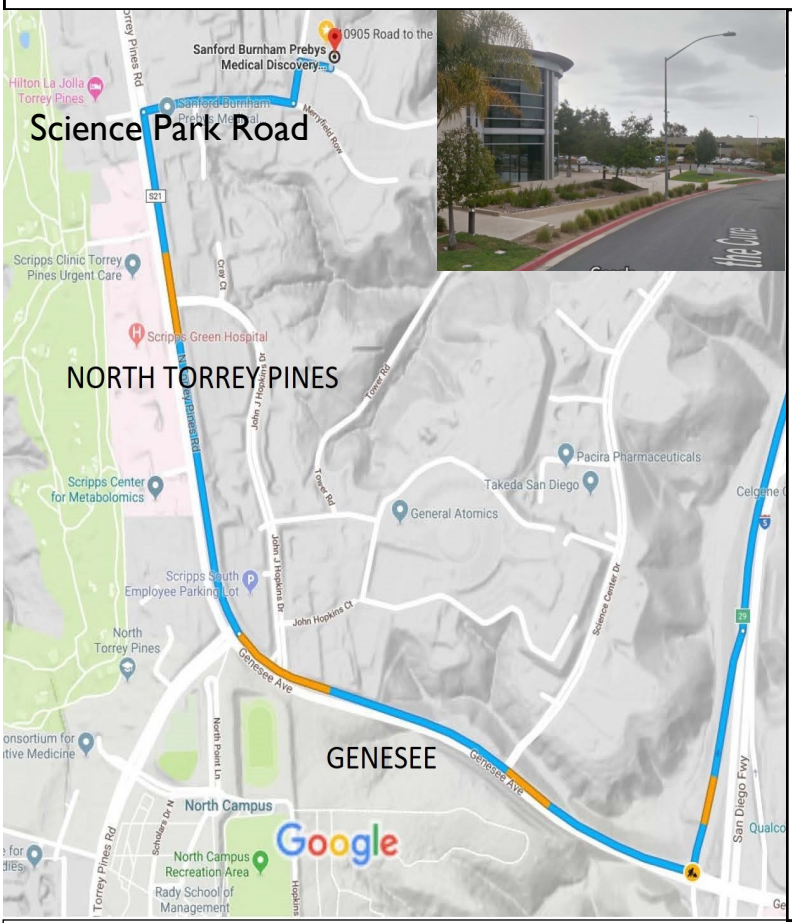
Our brochure provides the group philosophy and explains our goals. Copies may be obtained at our meetings. Please pass them along to friends and contacts.

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!

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 4201042, San Diego CA 92142



Directions to Sanford-Burnham-Prebys Auditorium
10905 Road to the Cure
San Diego, CA 92121

- Take I-5 (north or south) to the Genesee exit (west).
- Follow Genesee up the hill, staying right.
- Genesee rounds right onto North Torrey Pines Road.
- **Do not turn into the Sanford-Burnham-Prebys Medical Discovery Institute or Fishman Auditorium**
- Turn right on Science Park Road. Watch for our sign here.
- Turn Left on Torreyana Road. Watch for our sign here.
- Turn Right on Road to the Cure (formerly Altman Row). Watch for our sign here.