

KELOWNA PROSTATE CANCER SUPPORT & AWARENESS GROUP NEWSLETTER



**OKANAGAN PROSTATE
RESOURCE CENTRE
SOCIETY**

Okanagan Prostate Resource Centre

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Our guest speaker at our January meeting was Dr. Alistair Baillie, Ph.D., the head of Medical Physics at the Cancer Centre for the Southern Interior in Kelowna.

Medical physicists are physicists who work in medicine, this sometimes confuses people because most of those involved in the profession are PhDs. They work in collaboration with Radiation Oncologists, Radiation Therapists and Nurses. There are only about 300 College members in Canada. The Canadian College of Physicists in Medicine was founded in 1979, you can become a member by meeting experience requirements and by passing examinations. The specialty areas include Diagnostic Radiological Physics, Magnetic Resonance Imaging, Nuclear Medicine Physics, Radiation Oncology Physics. About 80% of the members are certified in Radiation Oncology Physics.

What do Radiation Oncology Physicists Do?

- Radiation absorption & calculation (theory)
- Dose measurement & calculation (treatment planning)

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Radiation Physicists Cont'd from
Page 1 -

- Development of new treatment techniques
- Quality Assurance to ensure safe treatment
- Acceptance testing & commissioning of new equipment
- Use of heat and lasers in cancer treatment
- Radiobiology
- Maintenance of equipment
- Radiation safety

Medical Physicists are professionals who specialize in the application of the concepts and methods of physics to the diagnosis and treatment of human disease.

Locally the Medical Physicists at our cancer Centre are very involved with not only External Beam Radiation and the maintenance of the Linear Accelerators, and other diagnostic and treatment equipment etc. they are very involved with both the Low Dose Rate Brachytherapy program - that uses individual or stranded seeds to treat cancer patients but also the High Dose Rate (HDR) Brachytherapy program that uses only a single seed to treat cancer patients.

Dr. Baillie's presentation was both very informative and extremely educational. I received many very

positive comments following his presentation.

Massive Cancer-Drug Deal for
Made in B.C. Prostate Cancer
Drug -

The following is an excerpt of an article that appeared in the December 15, 2015 issue of the *Vancouver Sun* by *Randy Shore*, and with information from other sources.

A promising new treatment for drug-resistant prostate cancer developed by scientists at the University of B.C. has been licensed by the pharmaceutical giant *Roche* for more than \$140 million, the university's richest intellectual property deal in its history.

Researchers *Paul Rennie* and *Artem Cherkasov* of the *Vancouver Prostate Centre* designed the drug to treat prostate cancers that mutate, rendering conventional treatments useless. The Vancouver Prostate Centre is a National Centre for Excellence for Commercialization and Research hosted by UBC and the Vancouver Coastal Health Research Institute.

Under the terms of the agreement with Roche, UBC and VCHRI receive an upfront payment and up to 141.7 million U.S. in milestone payments if the drug moves through pre-clinical and clinical trials, regulatory approval as well as meets sales targets, and then royalties thereafter.

The scientists will share 50 per cent of the revenue from the

agreement and Roche will separately cover the costs of development, testing and commercialization.

The drug targets advanced, metastatic prostate cancer that's virtually incurable because once conventional treatments fail, cancer can spread quickly throughout the body and thus is virtually incurable. This new drug targets a site in the cancer cells not prone to mutation.

"The major problem with our current forms of treatment is that the androgen receptor becomes mutated and resistant," said Rennie.

"Tumours are pretty much addicted to the androgen receptor and will do what they have to to get around whatever drug you use to block it."

The new drug candidate outsmarts the cancer by attacking the same receptor that promotes tumour growth, but to a location that binds to a very specific bit of DNA. Any change or damage to the site through mutation would render it useless, so its structure is stable, offering hope that a drug designed to exploit it could be effective for a long time.

"Drugs and proteins work like a key in a lock, so we have to find the perfect key for the existing lock," said Cherkasov. "Using computer simulations, we sometimes go through 50 million compounds to find a molecule that will seat in a precise and accurate way."

Cherkasov's powerful search technique produced about 200 candidate molecules, which they cut down to just a handful that appeared to be promising drugs.

Their lead compound works against tumours in animals, but still requires some structural "tweaking," which is work Rennie and Cherkasov will do in partnership with Roche.

Bringing a fully realized drug to market can easily cost \$1 billion and take years to complete.

"At the end of the day, we'd like to have a simple pill to take once a day for prostate cancer patients." said Cherkasov.

Surgical Castration Instead of Drugs in Prostate Cancer -

The following is an excerpt of an article that was obtained from *Medscape.com* and was written by *Veronica Hackethal, MD* - December 29, 2015

For some men with metastatic prostate cancer, surgical castration (orchiectomy) to remove the testicles could be a better option than "chemical castration" achieved by long-term use of Gonadotrophin-Releasing Hormone (GnRH) agonist products, as it may carry less risk for adverse events, suggests a new study published online December 23, 2015 in *JAMA Oncology*.

"The paradigms of treatment for advanced prostate cancer are ever changing, but there remains a group of men who require permanent castration. For those men, orchiectomy is a reasonable alternative that is associated,

according to our study, with lower risks for fractures, peripheral arterial disease, and cardiac-related complications than GnRH agonists," commented lead author *Quoc-Dien Trinh, MD, from Harvard Medical School* in Boston, Massachusetts.

"Unfortunately, for a multitude of reasons, most of which are unjustified, urologists and medical oncologists no longer offer the option of orchiectomy," he continued. "This is in spite of guidelines continuing to recommend orchiectomy as a first-line treatment option for men presenting with metastatic prostate cancer."

"I find it disconcerting that a perfectly reasonable, cost-effective surgical treatment....has disappeared from medical practice for nonscientific reasons," Dr. Trinh emphasized.

CV Risk With Androgen Deprivation

For the last 50 years, androgen-deprivation therapy has been the cornerstone of treatment for metastatic prostate cancer, the authors write.

However, achieving androgen-deprivation by bilateral orchiectomy has basically been eliminated from clinical practice, mainly because of aesthetic and psychological issues, but also because medical therapy is reversible and easy to administer, the authors write.

The current standard of care is long-term use of GnRH agonist products such as Goserelin (Zoladex, Astra-Zeneca) and Leuprolide (Lupron, AbbVie).

However, there is mounting evidence that androgen-deprivation

therapy is linked to significant adverse effects, such as cardiovascular events, diabetes, acute kidney injury, and bone loss, the authors write. The US Food and Drug Administration requires that GnRH agonist product labeling include a warning about increased risk for diabetes and cardiovascular disease.

Past research looking at adverse cardiac events associated with GnRH agonist products has suggested there is a lower cardiac risk in patients with orchiectomies. That led to the hypothesis that cardiac adverse effects may be related to GnRH agonist products, rather than androgen deprivation per se.

In the current study, researchers used the Surveillance, Epidemiology, and End Results database linked to Medicare records to identify participants. The study included 3,295 Medicare recipients aged 66 years and older with metastatic prostate cancer diagnosed between January 1995 and December 2009 and treated with GnRH agonist or orchiectomy within 12 months of diagnosis. Eighty-seven percent of men received a GnRH agonist, and 13.0% had orchiectomies.

Results showed that compared with men who received GnRH agonist products, those who underwent bilateral orchiectomies had:

- 23% lower risk for any fracture
- 35% lower risk for peripheral arterial disease
- 26% lower risk for cardiac-related complications.

However, although it adds to the important debate, the study has several limitations. Although the researchers adjusted for potential confounders, its retrospective design still carries the risk for bias. The results will need verification in a randomized prospective study, "before any firm conclusion can be made," Michael B. Kolinsky, BSc, MD pointed out.

"Unfortunately a study of this type is unlikely to occur because many, if not most, patients would find the prospect of being randomized to orchiectomy unpalatable," he concluded. "For the time being, the only conclusion that can be made is that both options should be presented to patients in an unbiased fashion, with frank discussion of the potential advantages and disadvantages of both forms of androgen-deprivation therapy, and to allow patient preference to guide the final decision.

"In the absence of clear evidence to the contrary, patients are likely to continue to overwhelmingly favor [GnRH agonists] over orchiectomy," the editorialists conclude.

WITT'S WIT (ON THE LIGHTER SIDE) -

I am a "**Seenager**" (A Senior Teenager) -

I have everything that I wanted as a teenager, only 60 years later.

I don't have to go to school or work.

I get an allowance every month.

I have my own pad.

I don't have a curfew.

I have a driver's license and my own car.

I have my own ID that gets me into bars and the Beer Store.

The ladies that I hang around with are not scared of getting pregnant.

And I don't have acne.

Life is Great!!!

The Kelowna Prostate Cancer Support & Awareness group does not recommend treatment modalities or physicians: However, all information is fully shared and is confidential. The information contained in this newsletter is not intended to replace the services of your health professionals regarding matters of your personal health.

The Kelowna Prostate Cancer Support & Awareness Group would like to thank Janssen - manufacturer of Zytiga® - Abiraterone for their support in producing this newsletter.



UP COMING MEETING DATES-

March 12th - April 9th - May 14th - June 11th - OFF FOR JULY AND AUGUST - September 10th - October 1st. (Please Note the October Meeting is on the First Saturday of the Month)

Meeting Location:

Our regular monthly meetings are held on the second Saturday of each month in the Orchard Rooms at the Parkinson Recreation Centre on Harvey Ave. with access off Spall Rd. Our meetings begin at 9:00 A.M. and are generally over by 11:00 A.M.

Thank you for helping us "Win the War Against Prostate Cancer."

The Okanagan Prostate Resource Centre operates on donations. We would like to thank the Companies, Service Clubs, Organizations and Individuals that have made donations in order to help us operate this very valuable center. If you wish to make a donation please feel free to fill out the form below. Your support is gratefully appreciated. Our official Registered Charitable Number is - 89269 1718 RR0001

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