

January 2004 Newsletter
#38 (v. 5, 1)

PCNG

PROSTATE CANCER NETWORKING GROUP

of
Greater Cincinnati

PCNG (<http://www.pcngcincinnati.org>) is a chapter of USToo

Founder: Bob Kanter - Conveners Emeriti: Adrian Boie, Lou Stadler - Facilitators: 8/03/: Stan Moczydlowski;
9/03: Steven Plymire; 10/03: Tom Young; 11/03: Steve Steiner; 1/04: Jerry Glenn
Newsletter (324 copies this issue) editors: Kees DeJong & Fran Stanton

779-0144 Adrian Boie: 1989, PSA
13, GS 9; RP, EBRT, IHT
751-6888 Kees DeJong: 1996, PSA
24, GS 9; IHT, EBRT+Brachy, IHT
253-6768 John Hoffmann: 1997,
PSA 5, GS 6; RP, EBRT

TELEPHONE CONTACTS:

528-2769 Gordon Huntley: 1999,
PSA 4, GS 9; RP and Orchiectomy
733-5745 Bill Riggs: 1995, PSA 33,
GS 6; RP, EBRT, HT

761-9645 Lou Stadler: 1987, PSA
NA, GS 7; EBRT, HT
542-4908 Fran Stanton: 1999, PSA
157, GS 8; HT, EBRT+Brachy
984-3343 Tom Young: 2002, PSA
7.8, GS 6; RP

19xx: year of diagnosis - PSA: Prostate Specific Antigen - GS: Gleason Score - RP: Radical Prostatectomy - EBRT: External Beam Radiation Therapy - Brachy: Brachytherapy ('seeds') - HT: Hormonal Therapy - IHT: Intermittent Hormonal Therapy

Next Large Group Meeting Will Be Held On Wednesday, January 28th

at The Wellness Community, 4918 Cooper Road *Women Are Welcome!*

6:30 pm: hospitality and networking - 7:00 pm: new members & sharing; 7:45 pm: additional networking

8:00 pm – MRI/MSRI: A Non-Invasive Tool for Diagnosing and Evaluating Prostate Cancer

Michael Lamba, PhD

Dr. Lamba is Research Physicist at the Barrett Center, Dept. of Radiation Oncology

Next Small Discussion Group Meetings will be held on Wednesday,
February 11th from 7:00-9:00 pm at The Wellness Community

One discussion group for men, and a separate discussion group for their spouses, partners, or family members

First the very best wishes for 2004 with good health for us all.

And many thanks to those who sent a check to the Wellness Community for the PCNG!

KD & FS

My wife, Else, and I were in Holland last month. We saw family, of course, and I attended a meeting of a Dutch prostate cancer support group. About 60 men -and a few wives and daughters- correspond on an E-mail bulletin board, and meet twice a year. The big news at the meeting in December was about MRSI. This is a new diagnostic examination that is so powerful that it may even displace the biopsy we all had.

Back in the USA I learned that Cincinnati does not yet have a MRSI facility. Software and some materials have to be bought and installed on one of the MRIs presently in Cincinnati, and extensive training is required. I strongly believe that we should have MRSI in Cincinnati, the sooner the better. So I wrote a letter and sent also a copy of this newsletter to Dr. William Martin, Dean of UC's Medical College (POBox 67055, OH 45267, tel. 513-558-7333).

What can you do to help us get a MRSI facility in Cincinnati?

KD

MRSI: New Diagnostic Procedure for Prostate Cancer

Prostate cancer patients have all had a biopsy: six or more hollow needles shot in the prostate by a biopsy 'gun'. The tissue in the needles is then studied by a pathologist to assign the Gleason score.

But it is also important to know whether the cancer is within the prostate (stage T1 or T2) or has spread outside the prostatic capsule (stage T3).

Locally advanced cancer (stage T3) can be detected in some patients with DRE or TRUS (Digital Rectal Examination and TransRectal UltraSound).

I had a TRUS for my biopsy, of course, but when another TRUS was considered (for better staging of my cancer) I learned that a 'color Doppler' TRUS, supposedly better than a regular TRUS, was not available in Cincinnati. So I drove to Crittendon (Michigan) where Dr. Lee, a well-known TRUS expert, made a Doppler TRUS image.

Diagnostic equipment important to some patients is, unfortunately, not always in Cincinnati. This is regrettable because better diagnosis leads to better treatment, perhaps avoiding overtreatment or undertreatment. Proper staging of the tumor is essential!

At our support group we encourage patients to acquire knowledge, not only about the various treatments but also about the impact of proper staging on treatment. Unfortunately, the various cancer centers in Cincinnati do not have special diagnostic equipment, and good information about staging and diagnostics is also absent from their web sites. It is obvious that any knowledge about advanced diagnostics should be discussed by the patient with his physician, but it is not welcome news hearing that one must go far away to be diagnosed properly.

In this newsletter you'll find information about the MRSI diagnostic procedure developed at the Univ. of California in San Francisco. Until a year ago San Francisco and Memorial Sloan-Kettering Cancer Center in NYC were the only places where a patient could have a MRSI made. Now the MRSI has been made available commercially ---- we sincerely hope that some laboratory in Cincinnati will purchase it and commit the necessary manpower to make this a successful procedure.

MRI

You might not have known this, but Magnetic Resonance Imaging (MRI) in a multi-million dollar machine and heating popcorn in your microwave oven are similar in one respect. Both machines make use of a particular characteristic of hydrogen ions (protons) in water in your food or water in your body. *Hydrogen protons align in a strong magnetic field* and heat up when their alignment is rapidly changed (microwave) or

send out a radio signal (the 'resonance') if the strong magnetic field disappears (MRI).

An imaging coil detects the radio waves released by the protons, and a computer produces dozens of images from those waves. An MRI apparatus does not use ionizing radiation and is thus safer than conventional X-rays.

MRI provides more tissue contrast resolution than other techniques, and a prostate cancer tumor appears as a dark area of low signal intensity amidst lighter healthy tissue. Prostate cancer patients have best results with an "endorectal" signal receiver coil.

MRI is highly accurate in detecting locally advanced cancer: extracapsular extension and seminal vesicle invasion. Even with all of these advantages, MRI has limitations: the localization of cancer within the prostate is subject to error because of factors such as post-biopsy hemorrhage (very common), chronic prostatitis, BPH, trauma, and therapy. The large number of false positives can lead to an overestimation of the extent of cancer.

What MRI needs is the ability to distinguish between cancerous and not cancerous tissue. MRSI can do that.

MRSI

Endorectal MRI uses five receiver coils (endorectal coil combined with four external coils) to acquire images simultaneously. This approach provides the sensitivity to acquire anatomic images with high resolution of the prostate. Furthermore, the use of endorectal MRI allows simultaneous acquisition of radio signals with different frequencies: Magnetic Resonance Spectroscopic Imaging or MRSI.

Separating the various frequencies of an extremely weak radio signal is the spectroscopic analysis, and the relative strength of the signal indicates the relative abundance of the materials produced in the prostate. They include citrate, and choline and creatine.

Cancers are recognized by comparing the radio signals of citrate with those of choline and creatine. While healthy prostate tissue demonstrates high levels of citrate and low levels of choline and creatine, prostate cancer shows high levels of choline and creatine and low or very low levels of citrate.

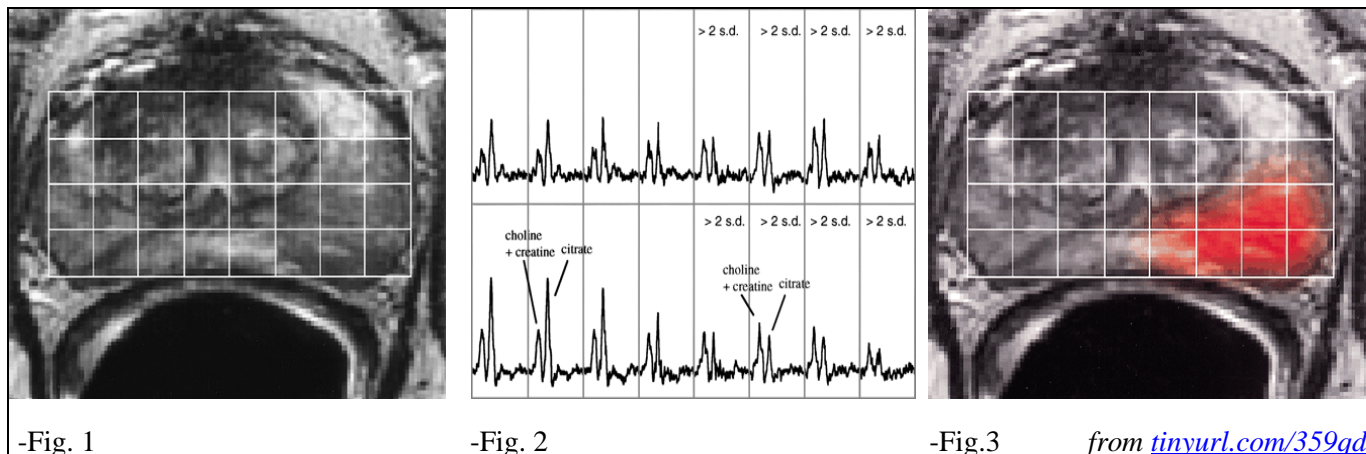
The choline/citrate ratio differentiates healthy prostate tissue and prostate cancer, and the differences between the anomalous ratios also allows the determination of tumor aggressiveness (Gleason score).

Dr. Hedvig Hricak, MD, PhD, chair of the Department of Radiology of the Memorial Sloan-Kettering Cancer Center in New York discussed MRSI during a press conference at the 88th Scientific Assembly and Annual Meeting of the Radiological Society of

North America last December. “Prostate cancer really requires 'boutique' treatment — tailored to each patient,” said Dr. Hricak. “This noninvasive diagnostic technology allows us to do that. The MRSI tracks choline + creatine and citrate,” Hricak said. “When the Gleason score is 6, choline is slightly elevated and citrate is low, but present. When the Gleason score is 8, choline is dramatically elevated and citrate is no longer present.” Thus, by tracing the choline/citrate ratios “imaging can identify 72% of very aggressive prostate tu-

mors — those with Gleason scores of 7.5 or higher,” she said. “With that level of accuracy we can effectively plan treatment.” Moreover, imaging can identify “cancer that has spread beyond the prostate, so it is a noninvasive way to help us determine therapy.”

Dr. Hricak illustrated the point with an MRSI slide in which an aggressive cancer had spread to the pelvic region. “Obviously we could not use brachytherapy in this man because the seeds would not get [to] the cancer.”



-Fig. 1

-Fig. 2

-Fig.3

from tinyurl.com/359qd

Fig. 1 shows an MRI image of a prostate overlain by a grid. Each grid element is spectroscopically analyzed, and the MRSI results of the lower two rows are shown in Fig. 2. The left peaks are choline + creatine, and the right peaks are citrate. In healthy tissue the left peak is lower, but in cancer they are of the same height, or the left peak is higher. There is thus cancer in 8 grid elements, and this information is superimposed on the MRI image with red (Fig.3).

It is impossible to get a MRSI without getting an MRI, and it is thus best to speak about a MRI/MRSI procedure. Such a procedure could be used instead of a biopsy because a MRI/MRSI exam can determine whether there is cancer, where it is located and how large it is. And it can tell how aggressive the cancer is.

MRSI in Cincinnati

Wouldn't it be wonderful if there would be a MRI/MRSI in Cincinnati? This non-invasive examination might replace a biopsy but could also be used to determine the location and extent of the disease; this would assist in treatment decision. Or it could be used to monitor the status of cancer in individuals who choose radiation therapy, hormonal therapy, chemotherapy, or “watchful waiting” without dietary and lifestyle changes or “active watchful waiting” with such changes.

MRSI has been developed in San Francisco, CA (Dr. Kurhanewicz) and Nijmegen, The Netherlands (Drs. Barentsz, Heerschap & Simonetti) for General Electric and Siemens MRI machines, respectively.

Upgrading of the GE MRI machines has become possible only in the last year. GE now sells a software package with various detector coils that allows MRSI to be added to a MRI machine. It is called PROSE and costs about \$80,000. That is not much compared with the cost of an MRI machine: \$1.5 million+! But the major cost of the MRSI procedure is a spectroscopist generating images such as Fig. 3 to be interpreted by a radiologist.

According to GE's web site tinyurl.com/3ezd8 the PROSE system is currently available in approximately 20 hospitals nationwide and more than 70 hospitals worldwide. At the same site one can read a quotation from Dr. Andrew Osiason of the Hackensack Radiology Group, The Imaging Center at Newman Street in Hackensack, New Jersey. He said “PROSE is currently the best test available for giving radiologists both an anatomical and cellular look at the cancer,” and “As the technology continues to evolve, PROSE may become the first screening test for prostate cancer. My hope is that PROSE will one day become the male equivalent to the mammogram.”

This is great news, but will prostate cancer patients in Cincinnati be required to travel to Hackensack, NJ, for a MRI/MRSI examination? I think that there should be at least one MRI/MRSI in Cincinnati because a city of its size should provide major equipment such as a Color Doppler TRUS and a MRI/MRSI for its prostate cancer patients. And that equipment should arrive as soon as possible!

Kees DeJong

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PROSTATE CANCER NETWORKING GROUP
OF GREATER CINCINNATI

c/o The Wellness Community
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Blue Ash, OH 45242

ADDRESS SERVICE REQUESTED



speaker:

**MRSI (Magnetic Resonance
Spectroscopic Imaging)**

feature:

**MRSI (Magnetic Resonance
Spectroscopic Imaging)**

In every struggle the only ones who can truly grasp your fear, your pain, your grief, your stamina that may sometimes fail are those who share the battlefield with you.

It is no different when the enemy is prostate cancer, and the fight is for your integrity as a man as well as your life.

www.phoenix5.org

BOOKS: *A book on the screen?* Click on www.prostatepointers.org/prostate/lay/apilgrim (Aubrey Pilgrim's book). *Interested in prostate cancer and nutrition?* Read Dr. Bob Arnot's "The Prostate Cancer Protection Plan". *A book that uplifts your spirits?* Read "Seeds of Hope", by Dr. Michael A. Dorso. --Buy this book as for only \$6 at www.acornpublishing.com/seeds.html! *A beautiful and well illustrated book on prostate cancer?* Order "A Primer on Prostate Cancer - The Empowered Patient's Guide" by Dr. Stephen Strum and Donna Pogliano; at www.buy.com: \$19.25 + \$2.40 S/H. "Dr. Patrick Walsh's Guide to Surviving Prostate Cancer" & Korda's "Man to Man: Surviving Prostate Cancer" are also fine books.

MAGAZINES: *Cancer Communication* -PAACT (Lloyd Ney +) - (616) 453-1477 www.paactusa.org/
Insights -PCRI (Stephen Strum, M.D.) - (310) 743-2110 www.prostate-cancer.org
PC-REF Reporter - PC-REF (Israel Barken, M.D.) - (619) 287-6682 www.pcref.org/
Prostate Forum - (Charles Myers, MD, (804) 974-1303 www.prostateforum.com (\$36/yr/12 electronic issues)
The Prostate Cancer Exchange - ECPCP (James Lewis, Ph.D.) - (516) 942-5000.
PSA Rising, an electronic magazine for Prostate Cancer Survivors with News, Info & Support - psa-rising.com/

WEB SITES: www.phoenix5.org (most visited site on prostate cancer); www.prostatepointers.org (mailing lists – Gary Huckaby); www.capcure.org (a private foundation – Mike Milken); www.prostatelab.com (Prostate Laboratory – Dr. Jon Oppenheimer); www.prostate-help.org (1,000,000 searchable words – Don Cooley); www.yananow.net (an Australian site); users.kingsley.co.za/~ghanesh/ (good info about WW); urology.jhu.edu/ (Johns Hopkins Hospital – Dr. Walsh); <http://www.asco.org/> (141 abstracts on prostate cancer presented at the ASCO June 2003 meeting); many more sites at www.phoenix5.org/siteslinks.html.

PCa FIGURES - as of 1/16/2004: explore 43,757 citations (of which 31,797 are abstracts) of medical papers on prostate cancer at www.ncbi.nlm.nih.gov (PubMed) and research 169 clinical prostate cancer trials at www.clinicaltrials.gov which lists 2,372 trials on cancer with 20 trials on PCa in Cincinnati. Am. Cancer Society (www.cancer.org): 220,900 new cases of PCa in the USA in 2003; 28,900 men will die; 1 man in 6 will get prostate cancer during his lifetime, only 1 man in 32 will die of this disease. "... 97% of men diagnosed with prostate cancer survive at least 5 years; 79% survive at least 10 years, and 57% survive at least 15 years".

URLs on this page clickable in the HTML edition of this newsletter at www.pcngcincinnati.org