

The Cancer Center Newsletter

4 ISSUE
2010

Latest Modalities in Treating Prostate Cancer



New York Hospital Queens da Vinci® Robot

Surgical Approaches

by Gerald J. Wang, M.D.,
Director of Urology, NYHQ

In the United States, prostate cancer is the most common noncutaneous cancer and the second-leading cause of death from cancer in men. If detected at an early stage before clinical evidence of metastasis, men

have three options for treatment of localized prostate cancer — active surveillance, radiation therapy and surgical therapy. Regarding surgical therapy, radical prostatectomy was the first treatment used for prostate cancer and has been performed for more than 100 years.

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Dattatreyyudu Nori, M.D.,
F.A.C.R., F.A.C.R.O., Director
of the Cancer Center, Chairman,
Department of Radiation
Oncology at NYHQ, and
Professor and Radiation Oncologist
in Chief at NewYork-Presbyterian
Hospital, Weill Medical College of
Cornell University.

Latest Modalities in Treating Prostate Cancer

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Gerald J. Wang, M.D.

Numerous innovations have been made over the years resulting in excellent cancer cure rates and decreased side-effects from surgery. Improved anatomic understanding has resulted in the ability to preserve the cavernosal nerves responsible for erectile function (i.e., the nerve-sparing radical prostatectomy). Furthermore, preservation of the external urethral sphincter has yielded urinary continence rates in excess of 90%. The main advantage of surgical therapy is that it offers the possibility of cure with minimal collateral damage to surrounding tissues. Further, it provides more accurate tumor staging by pathologic examination of the surgical specimen which translates into superior prognostic information for the patient.

More recently, minimally invasive surgical approaches have been developed which enable surgeons to perform the same anatomic, nerve-sparing radical prostatectomy but in a much less invasive manner for the patient and with superior visualization. The most recent advance in this area is the use of the da Vinci® robotic platform to perform robotic radical prostatectomy. In robotic surgery, a small stereoscopic camera is inserted through a 1-cm incision. This gives the surgeon a highly magnified, three-dimensional view of the prostate, the surrounding tissues and nerves in real-time. The surgeon performs the robotic surgery through a state-of-the-art console next to the patient using hand controls that translate the surgeon's hand, wrist and finger movements into exactly matching, real-time movements made by the robot inside the patient's body. The robotic instruments are miniaturized and enable the surgeon to make incredibly precise movements that were previously not possible with traditional surgical approaches. As a result, robotic surgery has a number of advantages. By using a series of incisions each less than 1cm, the robotic approach is less invasive for the patient which results in less postoperative pain, faster recovery, and a more rapid return to normal activities and work. Additionally, the robotic approach is associated with decreased blood loss which makes the surgery less traumatic for the patient. Finally, the robot provides 12x greater magnification than the naked eye. The combination of superior visualization and robotic precision enables the surgeon to remove the prostate with less damage to the surrounding tissues and nerves, resulting in the potential for decreased side-effects with regard to urinary control and erectile function. Most importantly, cancer cure rates using the robotic technique

appear equivalent to that of the traditional open approach. Thousands of robotic radical prostatectomies have been performed to date, and based on the largest surgical series available, biochemical, disease-free, and overall survival rates appear equivalent.

Radiation Therapy Approaches

by Hyesook Chang, M.D., Ph.D.,
Attending Radiation Oncologist, NYHQ



Hyesook Chang,
MD, Ph.D.

Prostate cancer is the most commonly diagnosed cancer and, as a result of widespread screening with PSA, it is increasingly diagnosed in younger men, at an earlier stage where it is potentially curable. Treatment options for localized prostate cancer include definitive radiotherapy (RT) with external beam RT (EBRT) and/or brachytherapy, +/- androgen deprivation therapy.

Modern treatment machines use computer-controlled multileaf collimators for beam sculpting to conform to the target shape and, in the case of intensity-modulated RT (IMRT), to achieve beam intensity modulation in each angle of incidence. These technical advances in radiation planning and delivery have permitted safe escalation of radiation dose to the prostate. The results of randomized trials have shown that higher dose improved biochemical recurrence free survival and IMRT yields higher preservation of sexual, urinary and bowel functions. Other advances include image guided RT (IGRT), which permits further margin reduction by detecting the movement of organ and tracking the target during treatment. Specifically, recently developed "cone beam CT" technology is capable of producing CT images of the regions of interest on the radiation treatment table.

Among approaches currently under investigation for the treatment of prostate cancer is stereotactic body radiotherapy (SBRT), which employs fewer treatment fractions with higher dose per fraction (typically, <5 fractions, where traditional EBRT utilizes to 40-45 fractions). ASTRO states that SBRT for prostate cancer dose not represent a "standard of care" and should be further tested within the context of appropriately designed clinical trials.

Radioactive seeds implants have been a popular option for early prostate cancer since the mid 80s. The cancer-control rates are comparable to RP, with less risk of incontinence and erectile dysfunction.

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New York Hospital Queens Elekta Linear Accelerator with IMRT and IGRT

For locally advanced prostate cancer, the combination of RT and androgen deprivation therapy (ADT) offers a survival benefit, however, the addition of ADT increases the risk of erectile dysfunction.

Finally, adjuvant RT given in a timely fashion after surgery has improved metastasis free survival and overall survival for patients with locally advanced disease (T3) and positive resection margin.

Medical Approaches

by Gabriel Jung, M.D. and Jane Kanowitz, M.D.,
Attending Medical Oncologists, NYHQ



Gabriel Jung, MD

Prostate cancer growth is driven by testosterone and associated hormones (androgens). Hormone treatment for prostate cancer consists of arresting the production of testosterone and androgens. With time, prostate cancer cells are no longer driven by hormones and grow independently — Androgen Independent Prostate Cancer (AIPC). Until recently, AIPC has been both challenging and

frustrating to patients and clinicians alike with only Taxotere effective in these patients.

At Queens Medical Associates oncologists are utilizing a new chemotherapy drug — Carbazitaxel — which improves overall

survival in men with metastatic prostate cancer whose disease is no longer responsive to hormone treatment or Taxotere. New hope is available utilizing this chemotherapy agent which was ‘fast tracked’ by the FDA due to these exciting findings.

Abiraterone is a tablet administered daily with promising results in androgen independent prostate cancer. Because of our research program, the oncologists at Queens Medical Associates will have access to this new agent on a compassionate use protocol, for men who have exhausted the use of available chemotherapy regimens, before final FDA approval. The drug is well tolerated and expands the treatment options available to gentlemen with refractory disease.

A therapeutic vaccine is now available only at Queens Medical Associates in Queens. Unlike prophylactic vaccines utilized to prevent disease, Provenge is a vaccine for selected patients with late stage prostate cancer, using the patients’ own cells. These cells are combined with an immune bolstering agent to use the body’s own immune system to fight the disease. Improved survival has been seen without the sometimes harsh side effects of chemotherapy and radiation.

Our oncologists at Queens Medical Associates are leading the fight against prostate cancer.

Jane Kanowitz, M.D.



Attending Medical
Oncologist, NYHQ

Jane M. Kanowitz, M.D. is joining New York Hospital Queens as an Attending Oncologist. Dr. Kanowitz was born and raised in Brooklyn, NY. She is a graduate of Cornell University Medical College in Manhattan and completed her

Fellowship at Memorial Sloan-Kettering Cancer Center. Most recently, she has been an attending physician at Mid Hudson Hematology-Oncology in Middletown, NY, where she established an accredited breast cancer program noted as a center of excellence. Her patients are impressed by her warmth, concern and humor and greatly appreciate her commitment to personalized care. Dr. Kanowitz is pleased to return to her roots in New York City and transfer her practice to Queens Medical Associates. She is looking forward to a strong collegial relationship with the physicians and staff of New York Hospital Queens.



Cynthia X. Pan, M.D.

Director, Palliative Care Center, NYHQ

Cynthia Pan has joined NYHQ as the Director of the new Palliative Care Center. Before coming to NYHQ, Dr. Pan was the Medical Director for the Queens Region of the Hospice Care Network. Before that,

she was an attending physician in the Department of Geriatrics and Adult Development, and Director of Palliative Care Education at The Mount Sinai Medical Center in New York. Dr. Pan completed a Geriatrics Fellowship in the Division on Aging at Harvard Medical School. Her internship and residency were in Primary Care Internal Medicine at the University of Rochester. Her medical degree is from Stony Brook University School of Medicine, and she completed her undergraduate work at Harvard University. She is a Fellow of the American Geriatrics Society and the American

College of Physicians and is board certified in Internal Medicine, Geriatrics and Palliative Care.

Dr. Pan is also a Senior Research Associate at the International Longevity Center, the Chairperson of the Ethnogeriatrics Committee of the American Geriatrics Society, and Adjunct Associate Professor in the Department of Geriatrics and Adult Development at The Mount Sinai School of Medicine.

Dr. Pan is active in several professional societies and national and regional organizations. She has received numerous awards and has spoken extensively at medical conferences and has published numerous articles.

Fluent in Mandarin Chinese and Spanish, Dr. Pan understands geriatrics and palliative care issues in culturally diverse populations and is thrilled to join the NYHQ community.

Dr. Pan aims to build an excellent palliative care program at NYHQ, at both clinical and educational levels, collaborating with multiple specialties and disciplines.

CANCER CENTER CLINICAL PROGRAM LEADERSHIP

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Dattatreyyudu Nori, M.D., F.A.C.R., F.A.C.R.O. 670-1501

ASSOCIATE DIRECTOR

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HEAD AND NECK ONCOLOGY

Larry Shemen, M.D. 520-1594

Jerry Huo, M.D. 670-0006

Michael Coomaraswamy, M.D. 670-1097

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Barry Kaplan, M.D., Ph.D. 460-2300

NEUROSURGERY

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Murisiku Raifu, M.D.

PULMONARY MEDICINE

Stephen Karbowitz, M.D. 670-1405

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RADIOLOGY

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SURGICAL PATHOLOGY

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Stanley Kerpel, D.D.S. (*Oral Pathology*) 670-1520

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Subroto Paul, M.D.

UROLOGY

Gerald J. Wang, M.D. 670-1097

Albert Tarasuk, M.D. 353-3710

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Jacqueline Xouris, M.S., R.N. 670-1211

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Mary Grace Sucholet, R.D. 670-2550

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Vikas Varma, M.D. 460-1111

Ji Han, M.D. 460-2300

Cynthia Pan, M.D. 670-2434

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Marlene Smike 670-1300

CANCER RESEARCH

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Baoqing Li, M.D., Ph.D. 670-1501

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Vice President, Ambulatory Services 670-1981

Tom Deutsch, M.P.H., M.B.A., *Administrative Director* 670-1501

Vijaya Malladi, C.T.R., *Manager* 670-1379

Recent Events & Publications

Baoqing Li, M.D., Ph.D. attending physician in the Department of Radiation Oncology at New York Hospital Queens, has published his research on radiation resistant prostate cancer in *Prostate*, the first-tier peer-review journal in October, 2010. Given the remarkable impact of his work, Dr. Li was also honored with the prestigious Young Oncologist Award from the American Radium Society, the oldest society devoted to the study and treatment of cancer.

About 90 percent of prostate cancer patients present with early-stage disease. However, in a quarter of patients treated with radiation therapy, some tumor cells become resistant to radiation and survive treatment, leading to an increase in PSA levels over time. MicroRNAs help regulate a number of cellular processes, including cancer cell death which can be induced by radiation treatment. However, Dr. Li's study found that an abnormally high level of microRNA-106b was able to override the cancer death responses — essentially negating the effects of treatment. Dr. Li's discovery points to microRNA-106b as a potentially therapeutic means to overcome radiation resistance within those prostate cancer cells, as commented by Dr. Nori, Director of NYHQ Cancer Center and a co-author of the article.

Dr. Li plans to continue his research at Cornell Weill Medical College, where he is also a full time faculty member in Radiation Oncology.

Paul C. Lee, M.D., Vice Chairman of the Department of Cardiothoracic Surgery and Chief of the Thoracic Surgery Division at NYHQ had the following article published:

Altorki N, et al. Phase II proof-of-concept study of pazopanib monotherapy in treatment-naive patients with stage I/II resectable non-small-cell lung cancer. *J Clin Oncol* 2010; 28(19): 3131-7.

Subroto Paul, M.D., Director of Minimally Invasive Lung Surgery at NYHQ has recently been certified in robotics surgery. Additionally, Dr. Paul has recently published the following articles:

Paul, S. et al. Survival of patients with clinical stage IIIA non-small cell lung cancer after induction therapy: Age, mediastinal downstaging, and extent of pulmonary resection as independent predictors. *The Journal of Thoracic and Cardiovascular Surgery* 2010.

Dr. Paul presented this paper at the 90th Annual Meeting of The American Association for Thoracic Surgery, Toronto, ON, Canada, May 4, 2010.

Salemi, A., et al., An unusual case of cardiac tamponade: ruptured subaortic diverticulum. *J Card Surg*, 2010. 25(3): p. 349-50.

Mirza, F., et al., Adult onset asthma. *Ann Thorac Surg*, 2010. 90(2): p. e31

Paul, S., et al., Thoracoscopic lobectomy is associated with lower morbidity than open lobectomy: a propensity-matched analysis from the STS database. *J Thorac Cardiovasc Surg*, 2010. 139(2): p. 366-78.

Gulkarov, I., et al., Use of Amplatzer device for endobronchial closure of bronchopleural fistulas. *Interact Cardiovasc Thorac Surg*, 2009.

The Division of Thoracic Surgery has opened the following protocol to eligible patients: A Phase III Randomized Trial of Lobectomy Versus Sublobar Resection for Small (less than 2 cm) Peripheral Non-Small Cell Lung Cancer. Sponsored by The Cancer and Leukemia Group B (CALGB), the purpose of this study is to compare outcomes and overall effects of limited resection versus lobectomy in patients with small lung tumors measuring up to 2 cm in size. Patients with non-small cell lung

cancer (NSCLC) having small, peripheral tumors measuring no greater than 2 centimeters on CT scan and no positive lymph nodes (N0) are eligible for this trial and will be offered the opportunity to participate at the time of their initial consultation with their thoracic surgeon. During surgery, pre-registered, consented patients who are found to have histologic confirmation of NSCLC and N0 status will be randomized to one of the following:

- Arm A: Lobectomy
- Arm B: Limited Resection (sublobar resection, segmentectomy or wedge resection)

All operations may be performed via open thoracotomy or by video-assisted thoracoscopic surgery (VATS). Post-operative chemotherapy may be given to patients at the discretion of the treating physician. Participants will be followed for 5 years. CT and PET studies from baseline to 3 years after registration or until disease progression will be submitted as part of an imaging substudy. Dr. Paul C. Lee is the principal investigator and Dr. Subroto Paul is the co-investigator of the trial at this site. To learn more contact Amanda Kansler in the Division of Thoracic Surgery at 718-670-2621 or amk2004@nyp.org.

Dattatreyyudu Nori, M.D., FACR, Professor and Chairman, Department of Radiation Oncology and Director of the Cancer Center has co-authored a chapter on Cancer of the Endometrium with Dr. Alektiar and Dr. Hsu, in the most popular textbook on radiation oncology, Leibel and Phillips Textbook of Radiation Oncology, 3rd Edition from the Memorial Sloan-Kettering Cancer Center and the University of California San Francisco.

The following presentations were made at the annual meeting of the American Society for Therapeutic Radiology and Oncology (ASTRO) by NYHQ faculty and residents:

Early Prediction of Radiation (RT)/chemoradiation (CRT) Response using a Novel Functional Imaging Method. [18F] fluorocholine Pet (FCH-PET) B. Parashar, A. G. Wernicke, J. Osborne, S. Monni, S. Rice, D. L. Sherr, S. Vallavhajosula, D. Nori, S. Goldsmith, K. S. Clifford Chao

Transforming Growth Factor Beta-1 (TGF- β 1) is a Serum Biomarker of Radiation Induced Fibrosis in Patients Treated with Intracavitary Accelerated Partial Breast Irradiation: Preliminary Results of a Prospective Trial. S. R. Coplowitz, K. Chao, D. Nori, B. Parashar, L. Riley, A. G. Wernicke

MammoSite Partial Breast Radiation Therapy for DCIS: Are all Cases Cautionary? M. Hayes, P. Patel, A. Sabbas, S. Trichter, B. Parashar, D. Nori, A. J. Swistel, R. Simmons, S. Hoda, K. S. C. Chao

Outcomes of Patients in ASTRO's Cautionary Group Treated with Accelerated Partial Breast Irradiation (APBI) P. S. Patel, D. Nori, S. Monni, A. Sabbas, S. Trichter, A. Swistel, E. Tousimis, R. Simmons, K. S. C. Chao, M. K. Hayes

Cesium-131 Brachytherapy for Lung Cancer: Dosimetric, Safety Considerations and Initial Experience W. Yan, S. Trichter, A. Sabbas, A. G. Wernicke, D. Nori, K. S. C. Chao, B. Parashar

Tissue Compliance Meter is a More Reproducible Method of Measuring Radiation-induced Fibrosis Than LENT-SOMA in Patients Treated with Intracavitary Brachytherapy Accelerated Partial Breast Irradiation: Results of a Prospective Trial G. A. Wernicke, B. Parashar, M. K. Hayes, S. Trichter, L. Riley, E. J. Nowak, R. M. Simmons, A. J. Swistel, D. Nori, K. Chao

(cont. on page 6)

The following papers were published by faculty in the Department of Radiation Oncology at NYHQ:

N. M. S. Reddy, A. Ravi, S. Coplowitz, W. Yan, S. Bolugoddu, D. Sicurello, C. Lagos, H. Chang, C. Lange and D. Nori. Analysis of acute rectal toxicity, interfraction prostate and SV shifts during kV-CBCT image guided IMRT for prostate cancer. International Journal of Radiation Oncology Biology and Physics, 78, S186, 2010. Presented at the 52nd Annual Meeting of ASTRO, October 31 – November 4, 2010, San Diego, CA.

N. M. S. Reddy, D. Nori, H. Chang, C. S. Lange and A. Ravi. Prostate and seminal vesicle volume based consideration of prostate cancer patients for treatment with 3D-conformal or intensity-modulated radiation therapy. Medical Physics. 37, 3791-3801, 2010.

N. M. S. Reddy, A. Ravi, H. Chang, C. S. Lange and D. Nori. Comparison of structure contouring efficiency and dose-volume histograms (DVH) of Pinnacle3 and Eclipse treatment planning systems for prostate IMRT. Medical Physics 37, 3225, 2010. Presented at the AAPM Annual Meeting, July 18-22, 2010, Philadelphia, PA.

TUMOR BOARDS/PATIENT CARE CONFERENCES

The **Department of Radiation Oncology has New Patient Conferences** every Tuesday morning at 8 a.m.

Breast Tumor Board is held on the second and fourth Wednesday of every month from 12 p.m. to 1 p.m. Lunch is served. Next upcoming dates are January 12 and 26.

Thoracic Tumor Board is on the third Wednesday of every month from 9 a.m. to 10 a.m. Next upcoming date is January 19.

Gyn Tumor Board is held on the first Wednesday of every month from 8 a.m. to 9 a.m. Next upcoming date is January 5.

General Tumor Board is held every Tuesday from 4 p.m. to 5 p.m. There is one Continuing Medical Education (CME) credit awarded per each Tumor Board meeting attended.

All the above noted professional educational programs are held in the **Anarena M. Anextis Conference Room** in the **Department of Radiation Oncology**. Refreshments are served.

PATIENT SUPPORT GROUPS

The American Cancer Society sponsors a **“Man-to-Man”** program for **prostate cancer** patients, on the second Wednesday of every month from 6 p.m. to 7:30 p.m. and a **“Look Good-Feel Better”** program for **female cancer patients undergoing Chemotherapy and Radiation Therapy** on the second Monday of every month from 5:30 p.m. to 6:30 p.m. For registration please call 1-800-ACS-2345.

The Leukemia and Lymphoma Society sponsors a Caregivers Support Group to address the unique needs of friends and relatives of those who care for others with any type of cancer diagnosis on the first Wednesday of every month at 6 p.m. To register, please call 212-376-4772.

A smoking Cessation Support Group is held the first Thursday of every month at 11 a.m. Contact the NYHQ Department of Health Outreach at 718-670-1211.

The above programs are held in the **Anarena M. Anextis Conference Room** in the **Department of Radiation Oncology**.

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