FOR VIETNAM VETERANS - AGENT ORANGE AND PROSTATE CANCER

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Risk Of Aggressive Recurrence Of Prostate Cancer

"There is something about the biology of these cancers that are associated with prior Agent Orange exposure that is causing them to be more aggressive. We need to get the word out," says Dr. Martha Terris, chief of urology at the Charlie Norwood VA Medical Center in Augusta and professor of urology at the Medical College of Georgia School of Medicine.

In doing some other research I happenned across this medical article that I do not remember seeing getting broad attention as it should have gotten. I am posting it in hopes to highlight this risk and get more veterans alerted! The article relates to Agent Orange Exposed Veterans and hope that all veterans further circulate!

A study of 1,495 veterans who underwent radical prostatectomy to remove their cancerous prostates showed that the 206 exposed to Agent Orange had nearly a 50 percent increased risk of their cancer recurring despite the fact that their cancer seemed relatively nonaggressive at the time of surgery. And, their cancer came back with a vengeance: the time it took the prostate specific antigen, or PSA, level to double - an indicator of aggressiveness - was eight months versus more than 18 months in non-exposed veterans.

Orange Exposure Increases Veterans' Risk Of Aggressive Recurrence Of Prostate Cancer

Veterans exposed to Agent Orange are at increased risk of aggressive recurrence of prostate cancer, researchers report.

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"There is something about the biology of these cancers that are associated with prior Agent Orange exposure that is causing them to be more aggressive. We need to get the word out," says Dr. Martha Terris, chief of urology at the Charlie Norwood VA Medical Center in Augusta and professor of urology at the Medical College of Georgia School of Medicine.

Dr. Terris, corresponding author on the study published in the May issue of British Journal of Urology International, says she wants her colleagues following prostate cancer patients with

Agent Orange exposure to know those patients may need more meticulous scrutiny and so-called salvage therapy quickly if their prostate cancer returns. "Not only are their recurrence rates higher but their cancers are coming back and growing much faster when they do come back," the Georgia Cancer Coalition Distinguished Scholar says.

The PSA of prostate cancer patients is typically measured every three months for two years after surgery then every six months for life. After surgery to remove the diseased prostate, the PSA should be zero, but any prostate cancer cells left behind continue to make PSA, a red flag of recurrence, Dr. Terris says. The PSA often "percolates along" so physicians tend to watch it for a while to determine if additional therapy is needed. However in patients with Agent Orange exposure, radiation or hormone therapy to kill remaining cells may need to be done sooner rather than later, she says.

Increasing evidence is emerging that exposure to Agent Orange, a herbicide and defoliant used during the Vietnam War, increases risk for a variety of health problems, including prostate cancer, although the exact mechanism is unclear. Dioxin, its known carcinogen, also is found in herbicides and pesticides used by U.S. farmers, forestry and chemical plant workers who studies have shown to have an increased cancer risk. Scientists suspect dioxin activates regulatory regions of genes to enable the uncontrolled cell division that is a cancer hallmark.

Dr. Terris led a separate study of 1,653 veterans at VA medical centers in five cities between 1990 and 2006 that also showed recurrence rates were higher and recurring cancers were more aggressive with Agent Orange exposure. Dr. Sagar R. Shah, MCG urology resident, presented the findings at the 2007 annual meeting of the American Urological Association.

This new study - which includes the VA Medical Center in Augusta, Veterans Affairs Greater Los Angeles Healthcare System, Veterans Affairs Palo Alto Healthcare System and six affiliated medical schools - included new patients as well as longer follow up on many of the original study patients. As with the previous study, prostate cancer seemed to have a similar course in blacks and whites, but Agent Orange exposure was more common in blacks, who were more likely to be ground troops in Vietnam.

Plenty of questions remain, such as what happens to patients whose primary treatment is standard radiation or brachytherapy, where rice-size radiation pellets are implanted in the prostate, rather than surgery, Dr. Terris says.

She also wants to know whether the veterans' degree of exposure is related to the severity of their cancer. Everyone has some dioxin exposure; "Even if you never set foot in Vietnam or outside the United States," she says. So she is now measuring levels in the body fat - which is like a repository for what the body has been exposed to - to determine how levels correlate to their cancer severity.

Prostate cancer is the most common cancer in men and trails lung cancer as the second leading cause of cancer death.

The study was funded by the Department of Veterans Affairs, the National Institutes of Health, the Georgia Cancer Coalition, the Department of Defense Prostate Cancer Research Program and the American Urological Association/Astellas Rising Star in Urology Award.

Source:
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Medical College of Georgia

http://www.veteranstoday.com/article8464.html

ARTICLE FOLLOWS:

PET/CT Scans May Help Detect Recurring Prostate Cancer Earlier
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A new study published in the September issue of The Journal of Nuclear Medicine shows that positron emission tomography (PET)/computer tomography (CT) scans with the imaging agent choline could detect recurring prostate cancer sooner than conventional imaging technologies in some patients who have had their prostates surgically removed. In addition, the journal also includes a paper that provides a broader examination of new agents and techniques for imaging prostate cancer, which accounts for 10 percent of all cancer-related deaths in the United States and is the most common type of cancer among men.

Many men diagnosed with prostate cancer choose to have a radical prostatecomy, which involves surgical removal of the entire gland and surrounding tissue. However, prostate cancer recurs within five years in as many as 30 percent of these patients. Physicians monitor patients who have undergone the procedure by checking levels of prostate-specific antigen (PSA) in the blood. If PSA is detected after radical prostatectomy - known as biochemical relapse - then imaging techniques are essential to determine whether and exactly where in the body the cancer has recurred. The study examined PET/CT scans with radioactively labeled choline - a promising molecular imaging tool which has been shown to be more accurate than conventional imaging techniques such as CT, magnetic resonance imaging (MRI) and bone scintigraphy in detecting recurrent prostate cancer.

"In most patients with biochemical relapse after radical prostatectomy, conventional imaging methods often return false-negative results, meaning that the imaging techniques fail to detect cancer that is present in the body," said Paolo Castellucci, M.D., of the nuclear medicine unit, hematology-oncology and laboratory medicine department, Azienda Ospedaliero-Universitaria di Bologna Policlinico S. Orsola-Malpghi, University of Bologna, Italy, and lead author of the study. "Our study found that for some patients, PET/CT with choline can improve the detection of cancer soon after PSA levels are measured. This enables physicians to tailor treatment to individual patients in the early stages of recurrence, thus increasing their chances of recovery."

The study included a total of 190 patients who had undergone radical prostatectomy and showed biochemical relapse in followup examinations. These patients were grouped according to PSA levels and studied with choline PET/CT scans. In addition, researchers also factored in PSA kinetic factors such as velocity - or the rate at which PSA levels change - and the PSA doubling time for each patient.

The study found that whole body PET/CT imaging with choline is significantly better than conventional imaging technologies in detecting prostate cancer in patients with biochemical relapse after radical prostatectomy. Researchers also found a strong association between PET/CT detection of recurrent cancer, PSA levels, and PSA kinetics. The authors suggest that based on the results, only patients with a high probability of having a positive scan based on PSA levels and kinetics should undergo choline PET/CT scans. By using these criteria, the number of inappropriate choline PET/CT scans can be reduced and early detection of prostate cancer relapse can be improved.

A paper examining the state of imaging technologies in diagnosing, staging, and monitoring treatment of prostate cancer is also featured in this month's journal. The paper, based on a recent

workshop held at the National Cancer Institute, reviews the technologies in light of growing concerns about overdiagnosing and overtreating prostate cancer. In some cases, detectable prostate cancer is very slow-growing and remains localized in the prostate. The rate of overdiagnosis of prostate cancer - defined as diagnosis in men who would not have clinical symptoms during their lifetime - has been estimated to be as high as 50 percent. In these cases, decisions to treat the cancer could have significant side effects such as impotence and incontinence, which can affect patients' quality of life.

"Conventional imaging techniques such as CT, MRI, and ultrasound leave substantial room for improvement in determining the extent and severity of prostate cancer," said Martin Pomper, M.D., Ph.D., professor in the department of radiology and radiological science, Johns Hopkins Medical Institutions, Baltimore. "New biomarkers may soon rival PSA for monitoring the presence and extent of disease. Our brief review examines the role of new and emerging molecular imaging agents for initially diagnosing, staging, detecting recurrence after treatment and measuring response to therapy."

Despite a variety of emerging techniques and probes using multiple imaging modalities, the paper notes, a simple, accurate method for image-guided therapy within the prostate is still needed. For metastatic disease, more careful study should be conducted of combinations of markers for prostate cancer, such as androgen receptor and prostate-specific membrane antigen (PSMA), which are excellent targets for imaging and therapy. In addition, new selective serum and urinary biomarkers such as the urinary marker sarcosine should be merged with molecular imaging tools. Pomper adds,"The article by Castellucci, et. al., in this issue illustrates nicely how connecting a serum marker - in this case PSA - with imaging can facilitate choosing the correct patients for an imaging study, as well as cut back on false negative results for that study." A practical multimodality imaging approach, coupled with an array of relevant bioarkers sampled from the blood and urine, will provide the best chance for effective management of prostate cancer, the paper concludes.

P. Castellucci, C. Fuccio, C. Nanni, I. Santi, A. Rizzello, F. Lodi, A. Franceshelli, G. Martorana, F. Manferrari, and S. Fanti, S. Sharp, B. Shulkin, M. Gelfand, S. Salisbury, W. Furman, Nuclear Medicine Unit, Hematology-Oncology and Laboratory Medicine Department, and Urology Unit, Specialist Surgery and Anaesthesiology Department, Azienda Ospedaliero-Universitaria di Bologna Policlinico S. Orsola-Malpghi, University of Bologna, Italy; "Influence of Trigger PSA and PSA Kenetics on 11C-Choline PET/CT Detection Rate in Patients with Biochemical Relapse After Radical Prostatectomy," The Journal of Nuclear Medicine, September 2009.

A. Zaheer, S. Cho, and M. Pomper, Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins Medical Institutions, Baltimore; "New Agents and Techniques for Imaging Prostate Cancer," The Journal of Nuclear Medicine, September 2009.

Source:
Amy Shaw
Society of Nuclear Medicine