

Seed implants suitable prostate cancer treatment for men of all ages

Men diagnosed with prostate cancer have a number of treatments to choose from, but it's a daunting task to figure out the right mix of therapies for an individual patient.

Trends among medical professionals have tipped the scales in favour of some treatments for younger men diagnosed with prostate cancer, but a new study by scientists at The Feinstein Institute for Medical Research and North Shore-LIJ Health System have found that age doesn't make a difference in the long-term therapeutic outcome.

Louis Potters, MD, chairman of radiation medicine at North Shore University Hospital and LIJ Medical Centre, and his colleagues identified 2119 consecutive prostate cancer patients treated between 1992 and 2005, and narrowed their selection to men under 60 years old. Their treatment regimens consisted of permanent prostate brachytherapy with or without hormone therapy, permanent prostate brachytherapy with external beam radiation, or a combination of those therapies. The 237 patients had been followed for an average of 56 months after treatment. They wanted to see whether there was a difference in the rate of progression among the treatments and if it had anything to do with the age of the patient or disease-related risk factors.

Age doesn't appear to be a factor

Age didn't seem to factor into the treatment equation, said Dr. Potters. Findings of the study were published in *The Journal of Urology*. "There is a whole politic to prostate cancer treatments," added Dr. Potters. "But the bottom line is that brachytherapy is an appropriate option for men at any age."

Prostate brachytherapy, or "seed implants" is the use of radiation implanted in the body itself. The idea dates back to 1913 when surgeons inserted a radium capsule into the prostatic urethra, the canal that runs from the bladder to the prostate. Implanting radioactive material locally to stop the growth of cancer cells was more art than science until the 1980's, when the development of transrectal ultrasound allowed surgeons to have a clearer view of the target tissue. It is critical that the implant delivers an effective dose to the prostate while avoiding surrounding organs.

The targeted use of radiation continues to be a common treatment option for men with clinically localized prostate cancer. The goal of any treatment is to stop the disease from progressing.

Dr. Potters said that the urological community generally refers younger patients for radical prostatectomy -- the surgical removal of the prostate -- over radiation or no therapy at all. Better screening and detection methods are discovering prostate cancer earlier in men. Knowing the long-term outcomes for each of the available treatments across the mid-to-late

lifespan is vital. "It is even more important to understand treatment options and associated outcomes for younger patients diagnosed with prostate cancer," Dr. Potters and his colleagues wrote in the paper.

Prostate implant appears to be effective for younger patients

In a study of 2119 patients in different clinical stages of the disease, scientists looked at the five and 10-year so-called "freedom from progression" (FFP). About 11% of those patients were under age 60. At five years, 90% of those who underwent the seed implant were treated successfully; and at 10 years, 86% had successful outcomes. Those rates did not change when the population was stratified into two groups - under 60 years old and over.

"It appears that a prostate implant, when performed well, is an effective treatment option for younger patients," Dr. Potters said. "Therefore, patient age should not bias one's options."

Each year, about 230 000 men are diagnosed with prostate cancer, one of the most common cancers in men over age 50. Treatment for localized disease remains controversial. About 20% of tumours never grow larger, even without treatment. Scientists are trying to figure out who these low-risk patients are and keep a watchful eye on them. There is intriguing evidence from autopsy studies that one in three men had prostate cancer that was not diagnosed when they were alive.

Is surgery best?

Is surgery best for younger patients? Is prostate brachytherapy as effective as surgery in reducing the risk of disease progression and death over a five-to-10-year period? And what are the benefits of seed implantation versus directing radiation beams at the tumour?

"There is no gold standard for outcomes in younger men with prostate cancer," said Dr. Potters. According to the new findings, he said, "Outcomes are impacted by disease-related risk factors but not by age."

He added that the advantage to brachytherapy is that the risk for incontinence is small, and impotence is not nearly as common as it is following prostate surgery.

Scientists at The Feinstein Institute are now studying the effect of the radiation dose on long-term outcome.

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