Updated Guideline on Brachytherapy in Prostate Cancer

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Care Ontario have issued a joint clinical practice guideline update on the use of brachytherapy for prostate cancer patients.

Brachytherapy involves the implantation of radioactive seeds into the prostate gland.

It is "now the nonsurgical standard of care for the majority of patients with prostate cancer — brachytherapy either by itself or as part of a combination approach," said Andrew Loblaw, MD, FRCPC, cochair of the expert panel that developed the guideline update, who was representing ASCO.

"Brachytherapy is also more convenient than external-beam radiation [EBRT] and has a much higher chance of curing the disease," said Dr Loblaw in a statement. "However, not every patient should have brachytherapy, and not all treatment centers are experienced in delivering high-quality brachytherapy."

The new guideline was published online March 27 in the *Journal of Clinical Oncology*.

"For the urologists, who are most often the gatekeepers in terms of first contact with men with prostate cancer, this guideline update provides new information which they can incorporate into patient counseling and treatment decision making," said Joseph Chin, MD, FRCSC, cochair the expert panel that developed the guideline update, who was representing Cancer Care Ontario.

"By optimizing treatment selection, which may or may not be brachytherapy for a particular patient, outcomes should ultimately be improved," said Dr Chin in a statement.

New Guideline Includes Recent RCT Data

The new recommendations provide an update to the systematic review and clinical practice guideline on low–dose rate (LDR) brachytherapy for patients with low- or intermediate-risk prostate cancer that Cancer Care Ontario published in 2013. It incorporates evidence from five randomized clinical trials (RCTs) that have been reported since 2013.

The guidelines sought to answer the following clinical questions:

- In patients with newly diagnosed prostate cancer, what is the efficacy of brachytherapy alone for clinical outcomes compared with EBRT alone or radical prostatectomy (RP) alone?
- In patients with newly diagnosed prostate cancer, what is the efficacy of brachytherapy combined with EBRT for clinical outcomes compared with brachytherapy alone, EBRT alone, or RP alone?
- Among the isotopes used for LDR brachytherapy (eg, iodine-125 [^{125}I], palladium-103 [^{103}Pd], and cesium-131 [^{131}Cs]), which isotope maximizes clinical outcomes when used in patients with newly diagnosed prostate cancer?

Key Recommendations

The main updated recommendations are as follows:

Among all eligible patients with low-risk disease who require or who select to undergo active treatment, low-dose brachytherapy alone, EBRT alone, or RP should be offered. All patients should be counseled about all their treatment options in a balanced, objective manner, preferably from a multidisciplinary team. This recommendation is unchanged from the previous guidelines, because no new data had a bearing on this clinical question.

In the population with intermediate-risk prostate cancer who select EBRT with or without androgen-deprivation therapy (ADT),

brachytherapy boost (either low or high dose) should be offered to all eligible patients. In the low-intermediate risk group (Gleason 7, prostate-specific antigen, <10 ng/mL or Gleason 6, prostate-specific antigen, 10 to 20 ng/mL) low-dose brachytherapy alone can be offered as monotherapy. For eligible patients with high-risk disease who are being treated with EBRT and ADT, brachytherapy boost (LDR or high–dose rate) should be offered.

Some patients in the intermediate- or high-risk groups may be ineligible for brachytherapy, and ADT may be given in neoadjuvant, concurrent, and/or adjuvant settings at physician discretion. Of note, the addition of neoadjuvant ADT could induce cytoreduction of prostate volume sufficient to allow brachytherapy.

For patients receiving low-dose brachytherapy, ^{125}I and ^{103}Pd are each reasonable isotope options, but no recommendation could be made for or against using ^{131}Cs or high-dose brachytherapy.

Patients who opt for brachytherapy should only be treated at centers that follow strict quality-assurance standards, the document emphasizes.

It also notes that there may be increased genitourinary toxicity after brachytherapy compared with EBRT alone. Also, the authors note that it "cannot be determined whether there is an overall or cause-specific survival advantage for brachytherapy compared with EBRT alone, because none of the trials were designed or powered to detect a meaningful difference in survival outcomes."

Patients should be encouraged to participate in clinical trials that are evaluating novel or targeted therapies, the authors add.

Several of the authors have disclosed relationships with industry, as noted in the original article

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