Updated Guideline on Brachytherapy in Prostate Cancer

The American Society of Clinical Oncology (ASCO) and Cancer Care Ontario have issued a joint clinical practice guideline update on the use of brachytherapy (BT) for prostate cancer patients. The new guideline was published online in the *Journal of Clinical Oncology* on March 27th.

BT 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 – either by itself or as part of a combination approach," said Andrew Loblaw, MD, FRCPC, co-chair of the expert panel that developed the guideline update, who was representing ASCO.

"BT 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 BT, and not all treatment centers are experienced in delivering high-quality BT."

"For the urologist, who is most often the gatekeeper in terms of first contact with men with prostate cancer, this guideline update provides new information they can incorporate into patient counseling and treatment decision making," said Joseph Chin, MD, FRCSC, co-chair of the expert panel that developed the guideline update and represented Cancer Care Ontario.

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

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Updated Guideline on Brachytherapy

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The new recommendations update the systematic review and clinical practice guideline on low-dose rate (LDR) BT for men with low- or intermediate-risk prostate cancer that Cancer Care Ontario published in 2013. It incorporates evidence from five randomized clinical trials reported since 2013.

The guidelines sought to answer the following clinical questions:

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

Key Recommendations

Among all eligible patients with low-risk disease who require or who select to undergo active treatment, low-dose BT 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, men who select EBRT, with or without androgen-deprivation therapy (ADT), BT boost (either low- or high-dose) should be offered to all eligible patients. In the low-intermediate risk group (Gleason 7, PSA <10 ng/mL or Gleason 6, PSA 10 to 20 ng/mL), low-dose BT can be offered as monotherapy. For eligible patients with high-risk disease who are being treated with EBRT and ADT, BT boost (LDR or high-dose rate) should be offered.

Some patients in the intermediate- or high-risk groups may be ineligible for BT, 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 BT.

For men receiving low-dose BT, ^{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 BT.

Patients who opt for BT 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 BT vs. EBRT alone. Also, the authors note that it "cannot be determined whether there is an overall or cause-specific survival advantage for BT vs. EBRT alone, because none of the trials were designed or powered to detect a meaningful difference in survival outcomes."

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

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