The role of radiation therapy in prostate cancer after radical prostatectomy: when and why?

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Abstract
PURPOSE OF REVIEW: Recent data support postoperative radiotherapy in the management of selected patients with localized prostate cancer; however, optimal patient selection and timing of additional treatment are uncertain. Data describing selection factors for treatment and literature supporting immediate or delayed radiotherapy are reviewed and the limitations of current knowledge are discussed.

RECENT FINDINGS: Three randomized controlled trials showed an advantage of combined surgery-radiotherapy when compared with surgery alone for biochemical relapse-free survival, local control and, in one trial, overall survival for those with pT3 disease and/or positive surgical margin. These trials only compared early postoperative radiotherapy with no radiotherapy. Toxicity of combined therapy is worse than that of surgery alone, so a preferable strategy might be to limit treatment to those who demonstrate postoperative biochemical progression. Only retrospective evidence exists to support this approach.

SUMMARY: Optimal timing and selection of patients for postoperative radiotherapy will only be determined from the results of important randomized controlled trials such as Medical Research Council/National Cancer Institute of Canada Clinical Trials Group Radiotherapy and Androgen Deprivation In Combination After Local Surgery (RADICALS), and these should be strongly supported. In the absence of new data, immediate postoperative radiotherapy for men with adverse pathology should be the standard of care, and these men should be referred to a radiation oncologist soon after surgery to discuss the relative merits of immediate or delayed postoperative therapy or entry into a clinical trial.

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