

## Toxicities associated with EBRT and Brachytherapy for Intermediate and High Risk Prostate Cancer, Correlated with Intra-operative Dosing

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**Abstract :** Prostate cancer is the most common cancer among men, excluding non-melanoma skin cancers. It is estimated that approximately 12% of men will develop prostate cancer during their lifetime. Patients with intermediate, high risk, and very-high risk prostate cancer often undergo a combination of radiation treatments. These treatments include external beam radiotherapy with a low-dose rate or high-dose rate brachytherapy boost, often with concomitant androgen deprivation therapy. The literature on follow-up of patients that receive brachytherapy is scarce, particularly follow-up of patients that undergo high-dose rate brachytherapy. This retrospective study aims to investigate the biochemical failure and toxicities associated with triple therapy and external beam radiotherapy given in combination with brachytherapy. Reported toxicities and prostate specific antigen (PSA) were retrospectively evaluated in eighty patients that previously underwent external beam radiotherapy with a low-dose rate or high dose-rate brachytherapy boost. The severity of toxicities were correlated with intra-operative dosing during brachytherapy on ultrasound and CT scan. The results of this study will provide further information for clinicians and patients when considering treatment options.

**Keywords :** toxicities, combination, brachytherapy, intra-operative dosing, biochemical failure

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