

Patient-Reported Outcomes (PROs) in Prostate Cancer Patients Undergoing IMRT Versus IMRT with Brachytherapy

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Introduction. The ASCENDE-RT trial showed improved cancer control but increased toxicity when brachytherapy (BT) was added to intensity-modulated radiation therapy (IMRT) for high-risk prostate cancer. Real-time BT, unlike pre-planned approach used in ASCENDE-RT, may reduce toxicity by better sparing surrounding organs. This study compares patient-reported outcomes (PROs) between IMRT and IMRT/BT using prospectively collected data.

Methods. International Prostate Symptom Score (IPSS) and Expanded Prostate Cancer Index Composite-Clinical Practice (EPIC-CP) are collected at pre-treatment and then prospectively for all patients. We analyzed patients treated from 2021-2024 and compared outcomes between patients treated with IMRT vs. IMRT/BT at 0-6 months, 6-12 months, and 12-24 months. Minimally important differences (MID) were defined based on published literature as a change of 3 points for IPSS and 1 point for EPIC-CP. Statistical tests were performed using SAS v9.4.

Results. Among 112 patients (IMRT: n = 50; IMRT/BT: n = 62, median age 67), both groups experienced initial IPSS worsening (median +5.0 vs. +7.0, NS). The EPIC-CP measure demonstrated similar findings, with urinary QOL for IMRT patients recovering to baseline, while IMRT/BT patients had persistently elevated urinary incontinence (0.0 vs. +1.0, p = 0.05) and urinary irritation (0.0 vs. +1.0, p = 0.02) at 12-24 months. Bowel function remained stable across groups.

Conclusions. IMRT and IMRT/BT result in post-treatment QOL declines. IMRT patients recover by 6-12 months, while IMRT/BT patients experience persistent but mild declines at 12-24 months. These data inform patient decision-making, balancing disease control benefit vs. mild increased urinary symptoms from adding BT.