At the **World Congress of Brachytherapy** held in July 2024 in Maryland, the "Top Five Abstracts" session featured two pivotal studies on prostate cancer treatment through brachytherapy. These presentations highlighted significant advancements in brachytherapy (BT) applications for high-risk prostate cancer management, addressing crucial aspects of treatment efficacy and patient quality of life.

The Top Five Abstracts session presented pivotal advancements in prostate cancer therapies, with a particular emphasis on brachytherapy (BT). Among the standout presentations were those by Dr. Juanita Crook from BC Cancer – Kelowna in British Columbia, Canada, and Dr. Gregory Merrick from the Schiffler Cancer Center, Wheeling Hospital, West Virginia, USA. Both experts in BT, their research sheds light on optimized strategies for treating high-risk prostate cancer.

Dr. Crook's investigation assessed the effects of combining external beam radiation therapy (EBRT) with either low-dose-rate (LDR) or high-dose-rate (HDR) BT on health-related quality of life in men with unfavorable intermediate-risk (UIR) or high-risk prostate cancer. This study involved 195 participants, with 108 receiving HDR-BT and 87 receiving LDR-BT as a boost alongside EBRT.

In urinary function outcomes, the study observed an initial quality-of-life decline in HDR patients one month post-treatment, with a return to baseline by six months. Conversely, LDR recipients experienced peak declines at three months, with recovery extending up to 18 months. Afterward, both groups exhibited similar long-term urinary symptom profiles. For bowel function, HDR patients demonstrated a quicker return to baseline and maintained better quality-of-life scores over the five-year follow-up compared to the LDR group, which experienced prolonged symptoms below the threshold for clinically important improvement.

The study concluded that, while both LDR and HDR BT proved effective in combination with EBRT, HDR was associated with a faster and more favorable quality-of-life recovery in both urinary and bowel domains. This suggests HDR as a preferred approach when prioritizing patient experience and minimizing prolonged side effects.

Dr. Merrick presented a long-term analysis on the necessity of supplemental EBRT in high-risk patients treated with Pd-103 BT. The data, derived from the 44/20 and 20/0 trials with a cohort of 630 patients, examined EBRT doses of 44Gy and 20Gy in combination with Pd-103 BT boosts of 90Gy, 115Gy, and 125Gy, as well as BT monotherapy.

With a median follow-up of 11.8 years, outcomes showed a biochemical failure rate of 5.8%, prostate cancer-specific mortality (PCSM) of 1.0%, and overall mortality (OM) of 30.4%. Among the 44/20 patients, biochemical failure and PCSM rates were 8.9% and 2.4%, respectively, while the 20/0 cohort showed lower rates of 3.6% and 0% for these outcomes. The discrepancy between groups was partly attributed to the higher prevalence of Gleason 8-9 scores in the 44/20 group (15.8% vs. 1.6%).

The study indicated that EBRT addition or dose did not significantly affect biochemical failure or PCSM. Rather, factors such as baseline PSA levels, Gleason score, and positive biopsy percentages were stronger predictors of outcomes. Multivariate analysis confirmed significant associations between elevated PSA or Gleason scores and higher biochemical failure and PCSM rates. Among patients with biochemical control, median PSA was under 0.02 ng/ml, reflecting strong disease management.

Dr. Merrick’s findings suggest that, for high-risk patients with well-placed implants, supplemental EBRT does not enhance biochemical control or reduce PCSM. This underscores the efficacy of Pd-103 BT monotherapy when delivered with precise dosimetry and extracapsular coverage, challenging the necessity of EBRT in certain high-risk cases.

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Social media text:
Updates in prostate cancer treatment were presented at this year’s World Brachytherapy Congress. They included BT boosts, HDR vs. LDR, and new techniques to improve patient outcomes and quality of life.

👉 Read the report by the ESTRO urology focus group: LINK

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