The ASCENDE-RT Trial

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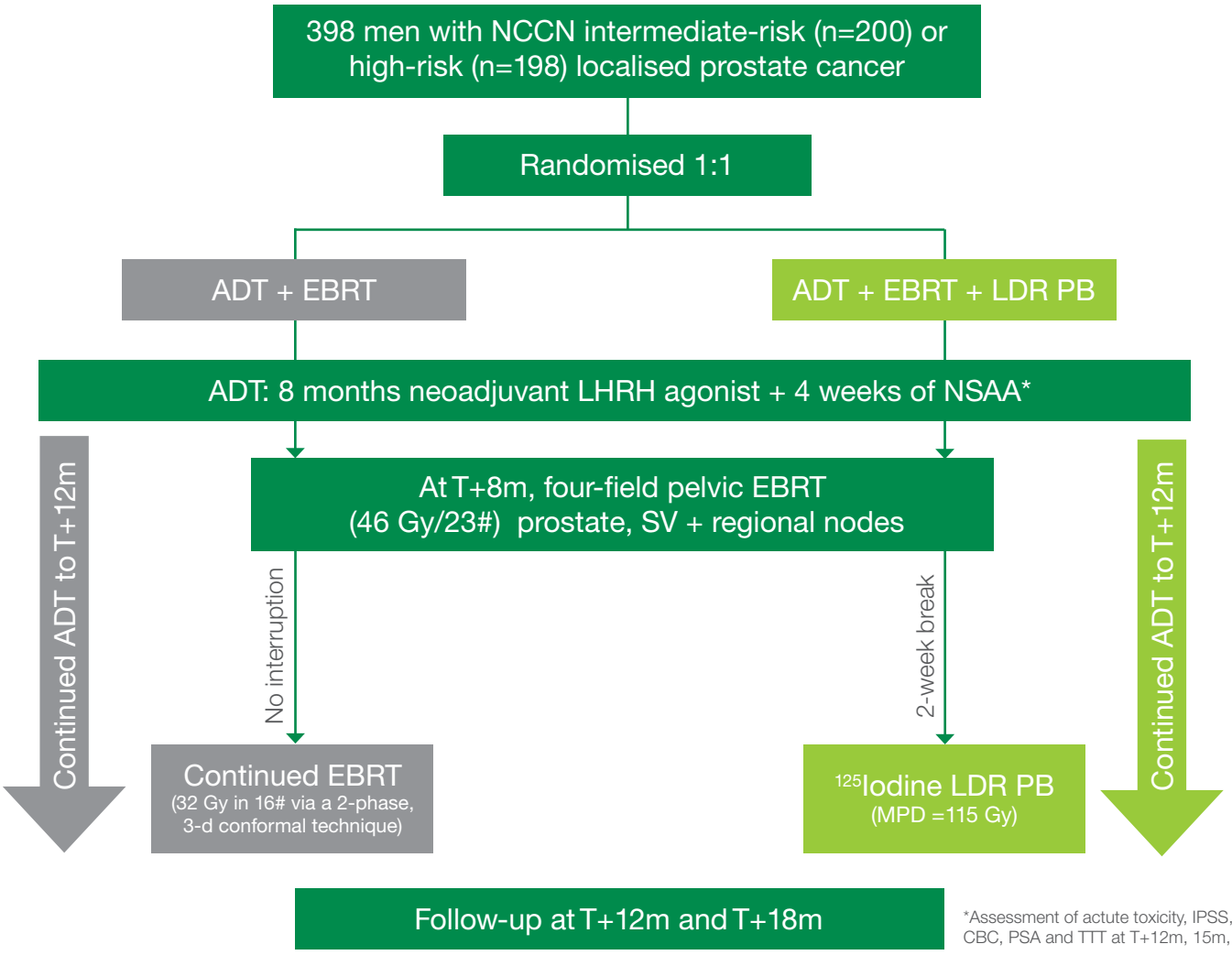
ASCENDE-RT: An Analysis of Survival Endpoints for a Randomized Trial Comparing a Low-Dose-Rate Brachytherapy Boost to a Dose-Escalated External Beam Boost for High- and Intermediate-Risk Prostate Cancer

Study Design

Multi-centre randomised trial to compare the efficacy of low-dose-rate prostate brachytherapy (LDR-PB) to dose-escalated external beam radiation therapy (DE-EBRT) for men with National Comprehensive Cancer Network (NCCN) intermediate-risk and high-risk prostate cancer.



Primary Endpoint

Disease-free survival

Secondary Endpoints

Overall survival, metastasis-free survival, pathological local control, incidence of acute and late side effects and complications associated with the treatment interventions, effect of the planned interventions on quality of life and rate of testosterone recovery.

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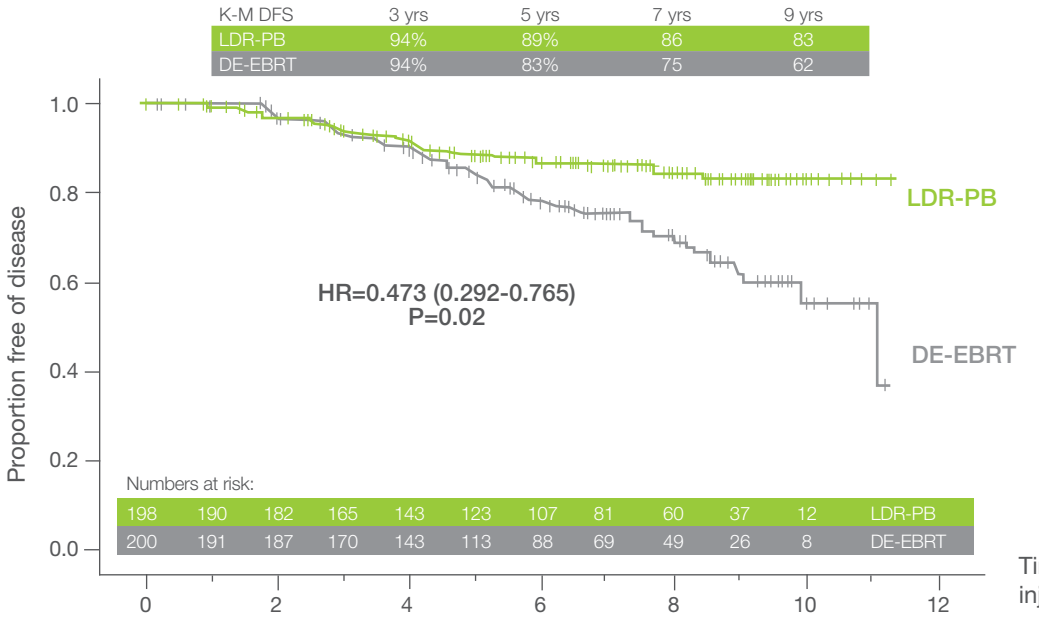
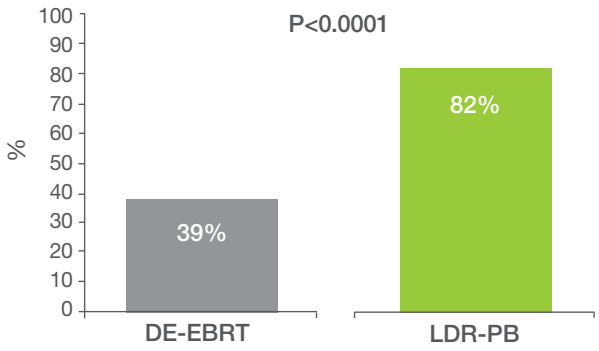
K-M Disease Free Survival using the Nadir+2 ng/mL Threshold for Biochemical Failure



7-Year DFS Survival Estimate Using Threshold of >0.2 ng/mL to Define PSA Relapse



Other Findings

- To date, overall survival and prostate cancer-specific survival do not appear to differ between arms. However, existing trends favour LDR-PB, suggesting differences in these survival endpoints may emerge with longer follow-up.
- Long-term prevalence of urinary toxicity was higher in the LDR-PB arm versus the DE-EBRT arm (8% vs 2%).

Note: The study used a 2003 seed implant protocol which has since been superseded by modern-day dose optimisation techniques which minimise dose to the urethra in order to reduce the risk of urinary complications.

Conclusions

- In multi-centre randomised setting, LDR-B resulted in a 50% reduction in the risk of biochemical relapse compared with an external-beam conformal boost (DE-EBRT) in the context of ADT and pelvic EBRT.
- The biochemical progression-free survival (PFS) rates for the LDR-B and DE-EBRT arms, respectively, were 88.7% versus 83.8% at 5 years, and 83.3% versus 62.4% at 9 years.
- The trend favouring LDR-B over DE-EBRT for improved biochemical PFS was seen in both the intermediate-risk and high-risk patient groups.
- Modern-day techniques have significantly improved the rate of urinary side effects seen today versus that were reported in the study from the 2003 treatment protocol adopted.