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Preliminary Outcomes following Single-Dose Ablative Radiotherapy for Unfavorable Prostate Tumors

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INTRODUCTION & AIM

To investigate early gastrointestinal (GI) and genitourinary (GU) side effects in patients with organ confined unfavorable prostate cancer (PCa) following Single-Dose Ablative Radiation Therapy (SDART).

METHOD

Twenty-five patients included in the prospective clinical trial "ABRUPT" (NCT04831983) were treated with a single fraction of 24 Gy to the whole prostate with urethra sparing in association with androgen deprivation therapy (ADT), as per standard of care.

The treatment was delivered on Linac platform with Volumetric Modulated Arc Therapy (VMAT) and a real-time prostate tracking system.

Side effects were evaluated with CTCAE_v5 scale. IPSS score and Quality of Life (QoL) metrics assessed with EORTC questionnaires QLQ-PR25/-C30 were also measured.

In addition, multiparametric MRI was performed before SDART (time 0), one hour post-SDART (time 1), and 3-month after treatment (time 2).

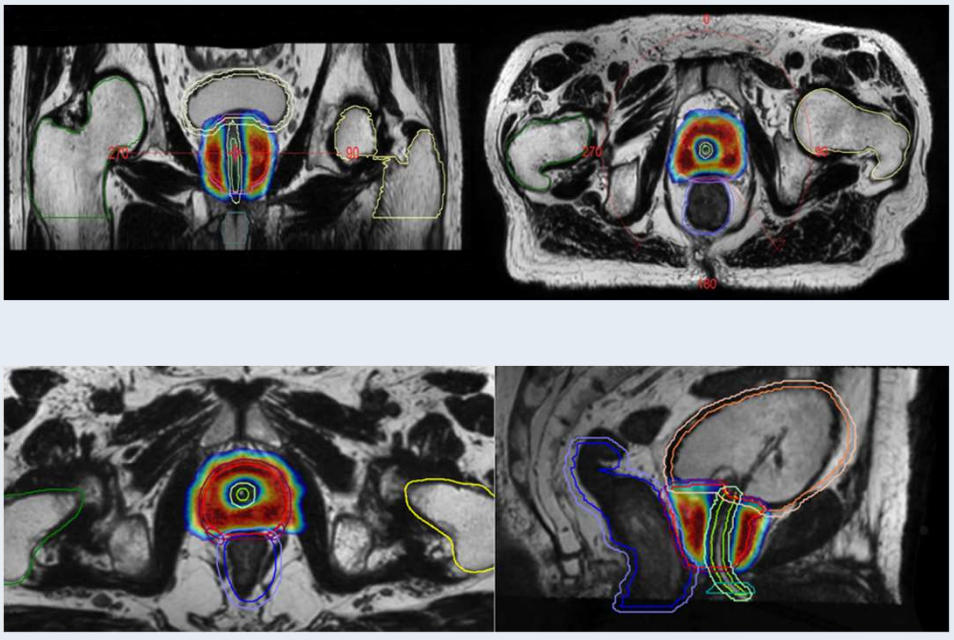
RESULTS

Median age was 77 years (range 62-84) and median iPSA level was 7,8 ng/ml (range 3,88-18,27). With a median follow-up of 10 months (range 3-22**) only one patient experienced a major (G3) GU toxicity,** while none of them developed a ≥G2 GI toxicity. **Two instances of G2 GU toxicity** were recorded. Median IPSS showed a transient decline at 3 months, before gradually returning at baseline levels. At the same timepoints, a worsening in the QoL (83 vs 67) and urinary domains (8 vs 17) was documented, while no significant changes were observed thereafter. Bowel domains remained unchanged.

A 35% reduction in the median prostate volume was observed, from 33.7 cc (range 10-59) at time 0 to 27 cc (range 8,5-48) at time 2.

At time 2, all patients showed a radiological response at MRI. At last follow up, all patients were found b-NED (nine patients ADT-free).

Treatment plan with urethra sparing and MRI image fusion.



CONCLUSIONS

SDART irradiation of the whole prostate with urethra sparing and organ motion control was feasible and well tolerated in patients with organ confined unfavorable PCa. Long term results are awaited to confirm these findings.

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