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Perirectal Spacer Outcomes in the Treatment of Prostate Cancer – A Single Centre Experience in Hong Kong

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Introduction

- Hypofractionated radiation therapy (RT) is commonly used for treatment of CA prostate
- Side effects include gastrointestinal (GI) toxicity, irradiation cystitis, perineal skin irritation
- Perirectal spacers increase distance between rectum and prostate, help mitigate GI toxicity effects
- Spacers currently available: hydrogels (SpaceOAR™, Barrigel®) or biodegradable balloon spacers
- Aim of study – to compare outcomes between spacers used (SpaceOAR™ and Barrigel®), including GI toxicity symptoms and spacer spread

Methodology

- Retrospective study on patients who underwent ultrasound (USG) stepper-guided perirectal spacer insertion under local anaesthesia from 1/9/2022 to 31/5/2025 at Pamela Youde Nethersole Eastern Hospital (PYNEH) Urology Centre
- Spacers used: SpaceOAR™, Barrigel®
- Patients had magnetic resonance imaging (MRI) pelvis afterwards
- Patients followed up for post-RT symptoms, PSA level monitoring

Results

- Total 65 patients included
- Median follow up period: 60.6 weeks
- No statistically significant difference in patient characteristics between SpaceOAR™ vs Barrigel®

GI toxicity and complications

- Similar rates of early GI toxicity for SpaceOAR™ vs Barrigel® (4.65% vs 4.54%, $p=1.000$), all Grade 1 diarrhea
- 4 patients complicated with perirectal spacer infiltration

Spacer evenness

- No significant differences in evenness of spacer in axial (97.3% versus 95.4%, $p = 0.611$) and sagittal (83.8% versus 77.3%, $p = 0.385$) views between two groups.
- Mean anteroposterior (AP) spread greater for SpaceOAR™ vs Barrigel® (11.17mm versus 9.27mm, $p = 0.002$). (Fig. 1)

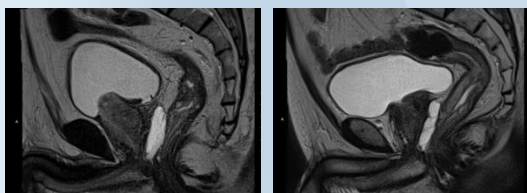


Fig. 1. Examples of SpaceOAR™ (left) and Barrigel® (right) on MRI pelvis

AP spread subgroup analysis – spacer type

- No significant difference in anteroposterior (AP) spread for each prostate sizing group when analysing each spacer group individually

AP spread subgroup analysis – prostate size

- AP spread at midline significantly greater for SpaceOAR™ for prostate size groups <30mL ($p=0.016$), and size between 30 to 60mL ($p=0.002$)
- No significant differences observed in AP spread for prostates >60mL ($p=0.913$)
- Higher volume of SpaceOAR™ injected in all prostate size groups overall

Discussion and conclusion

- Insertion of perirectal spacer prior to radiotherapy treatment for prostate cancer resulted in minimal early gastrointestinal toxicity symptoms post-radiotherapy
- SpaceOAR™ overall showed better AP spread, likely due to larger volume of spacer injected, yet both agents showed no significant difference in early side effects or complications.