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Clinical investigation title:

CONTINUED BENEFIT TO RECTAL SEPARATION FOR PROSTATE RADIATION THERAPY: FINAL RESULTS OF A PHASE III TRIAL

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Summary

A phase III trial was performed using an absorbable hydrogel (SpaceOAR™ System) to provide space between the prostate and rectum for men undergoing dose-escalated prostate radiation therapy. At 3 years, the men in the spacer arm had decreased bowel toxicity and fewer declines in both urinary and bowel quality of life compared with the control group.

Purpose

SpaceOAR™ Hydrogel, intended to create a rectal-prostate space, was evaluated in a single-blind phase III trial of image guided intensity modulated radiation therapy. A total of 222 men were randomized 2:1 to the spacer or control group and received 79.2 Gy in 1.8-Gy fractions to the prostate with or without the seminal vesicles. The present study reports the final results with a median follow-up period of 3 years.

Materials and methods

Cumulative (Common Terminology Criteria for Adverse Events, version 4.0) toxicity was evaluated using the log-rank test. Quality of life (QOL) was examined using the Expanded Prostate Cancer Index Composite (EPIC), and the mean changes from baseline in the EPIC domains were tested using repeated measures models. The proportions of men with minimally important differences (MIDs) in each domain were tested using repeated measures logistic models with pre-specified thresholds.

Results

The 3-year incidence of grade ≥ 1 (9.2% vs 2.0%; $P=.028$) and grade ≥ 2 (5.7% vs 0%; $P=.012$) rectal toxicity favored the spacer arm (Figures 2A and 2B). Grade ≥ 1 urinary incontinence was also lower in the spacer arm (15% vs 4%; $P=.046$), with no difference in grade ≥ 2 urinary toxicity (7% vs 7%; $P=0.7$) (Figures 2C and 2D).

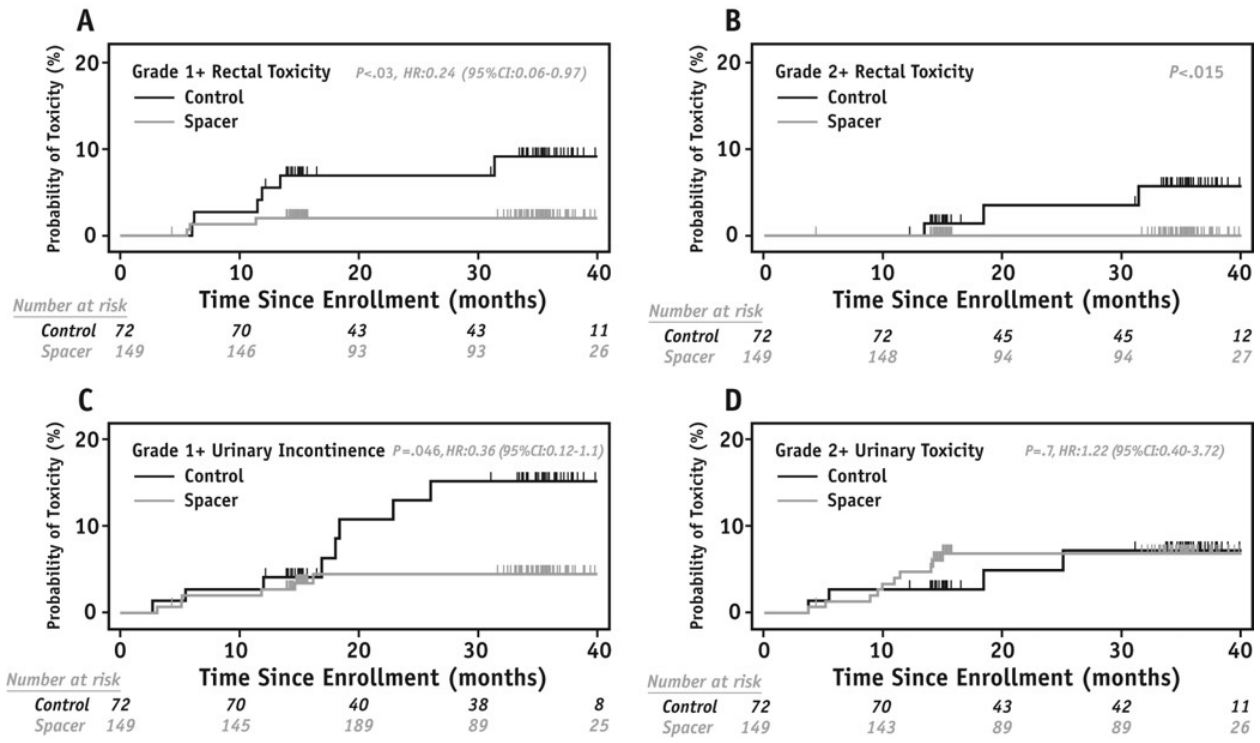


Figure 2. The cumulative incidence of grade ≥ 1 (A) and ≥ 2 (B) bowel toxicity and grade ≥ 1 urinary incontinence (C) and grade ≥ 2 urinary toxicity (D). Abbreviations: CI = confidence interval; HR = hazard ratio.

From 6 months onward, bowel QOL consistently favored the spacer group ($P=.002$), with the difference at 3 years (5.8 points; $P<.05$) meeting the threshold for a MID. The control group had a 3.9-point greater decline in urinary QOL compared with the spacer group at 3 years ($P<.05$), but the difference did not meet the MID threshold. At 3 years, more men in the control group than in the spacer group had experienced a MID decline in bowel QOL (41% vs 14%; $P=.002$) and urinary QOL (30% vs 17%; $P=.04$). Furthermore, the control group were also more likely to have experienced large declines (twice the MID) in bowel QOL (21% vs 5%; $P=.02$) and urinary QOL (23% vs 8%; $P=.02$) (Figures 3 and 4).

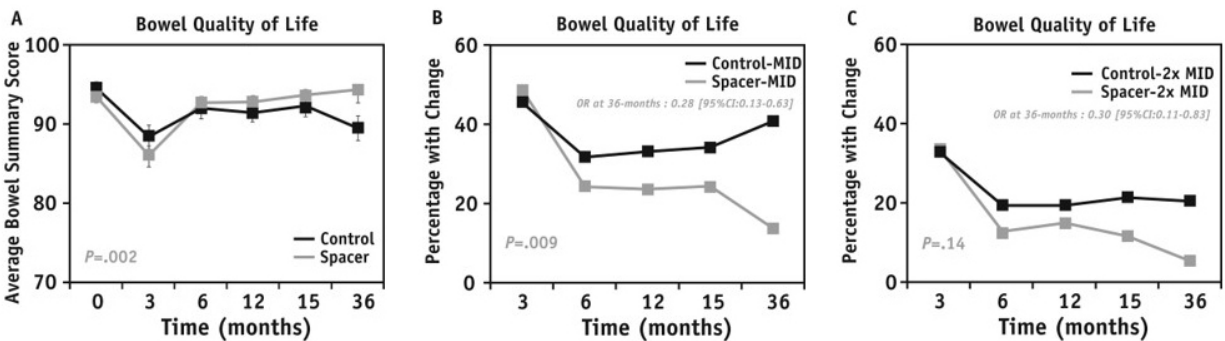


Figure 3. Mean changes in bowel quality of life summary score (A) as a function of treatment arm. Data presented as mean \pm standard error of the mean. The proportion of patients with detectable changes in bowel quality of life at the 5-point (B) or 10-point (C) threshold. Abbreviations: CI = confidence interval; MID = minimally important difference; OR= odds ratio.

Results cont.

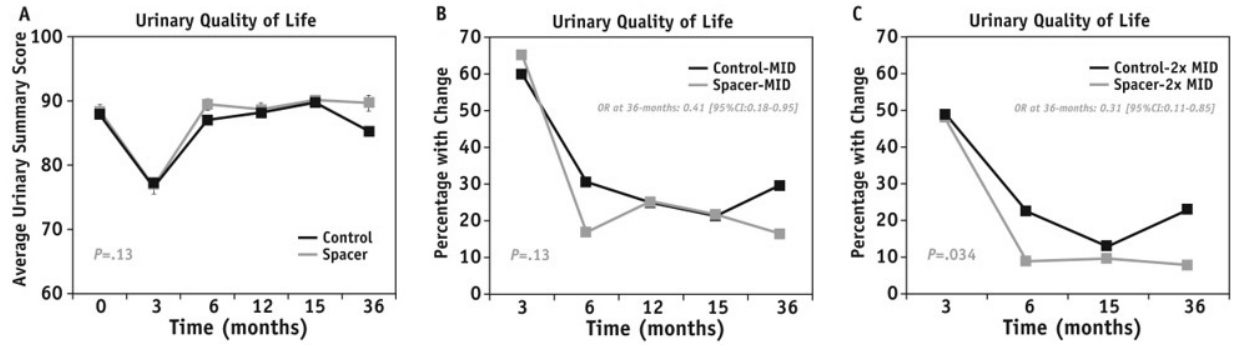


Figure 4. Mean changes in urinary quality of life summary score (A) as a function of treatment arm. Data presented as mean \pm standard error of the mean. The proportion of patients with detectable changes in bowel quality of life at the 6-point (B) or 12-point (C) threshold. Abbreviations: CI = confidence interval; MID = minimally important difference; OR = odds ratio.

Conclusion

The benefit of a hydrogel spacer in reducing the rectal dose, toxicity, and QOL declines after image guided intensity modulated radiation therapy for prostate cancer was maintained or increased with a longer follow-up period, providing stronger evidence for the benefit of hydrogel spacer use in prostate radiation therapy.



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SpaceOAR Hydrogel is intended to temporarily position the anterior rectal wall away from the prostate during radiotherapy for prostate cancer and in creating this space it is the intent of SpaceOAR Hydrogel to reduce the radiation dose delivered to the anterior rectum.

SpaceOAR Hydrogel contains polyethylene glycol (PEG).

Prior to using these devices, please review the Instructions for Use for a complete listing of indications, contraindications, warnings, precautions and potential adverse events.

As with any medical treatment, there are some risks involved with the use of SpaceOAR Hydrogel. Potential complications associated with SpaceOAR Hydrogel include, but are not limited to: pain associated with SpaceOAR Hydrogel injection, pain or discomfort associated with SpaceOAR Hydrogel, local inflammatory reactions, infection (including abscess), urinary retention, urgency, constipation (acute, chronic, or secondary to outlet perforation), rectal tenesmus/muscle spasm, mucosal damage, ulcers, fistula, perforation (including prostate, bladder, urethra, rectum), necrosis, allergic reaction (localized or more severe reaction, such as anaphylaxis), embolism (venous or arterial embolism is possible and may present outside of the pelvis, potentially impacting vital organs or extremities), syncope and bleeding. The occurrence of one or more of these complications may require treatment or surgical intervention. URO-989608-AB

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