

CyberKnife® SBRT Treatment for Prostate Cancer Utilizing Hydrogel Prostate-Rectum Spacer

PATIENT SPOTLIGHT

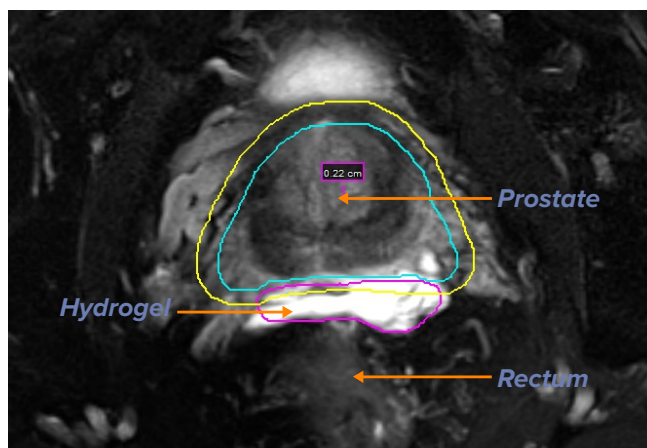
The patient is a 73-year-old Air Force retiree who is very functional and quite healthy otherwise. He smoked for 5 years (age 16-21) at about ½ pack/day. He drinks 10 alcoholic beverages per week. He has no family cancer history, with both of his parents living to their 90s. He has a PSA of 9.1. His TRUS-guided biopsy revealed a stage I (T1c N0 M0) Gleason Score 6 (3+3) prostatic adenocarcinoma in two of six cores in the left side (left mid and apex).

CYBERKNIFE TREATMENT RATIONALE

The patient is not interested in active surveillance with continued prostate biopsies. He is actively seeking treatment. He has met with surgeons and radiation oncologists for a multidisciplinary evaluation in consultation. Several radiotherapy options for low-risk prostate adenocarcinoma were discussed. These include brachytherapy, VMAT/IMRT, and hypofractionated stereotactic body radiotherapy (SBRT). After weighing the benefits and risks to each approach, the patient decides to proceed with 5-fraction SBRT with CyberKnife. Prior to SBRT, the patient will have fiducial marker placement and insertion of FDA-cleared hydrogel spacer (minimizes radiation exposure to the rectum).

TREATMENT DETAILS

Prescription Dose	36.25 Gy (70% IDL)
Number of Beams Delivered	192
Fractions	5
Rectum-Sparing Hydrogel	Yes



Austin CyberKnife uses a hydrogel spacer to protect the rectum from radiation exposure.

OUTCOME AND FOLLOW-UP

Follow-up was completed via telemedicine. The patient received the 5 fractions without incident. His urinary habits improved overall with some nocturia. No other side effects are present. He is doing well with an excellent PSA response. PSA is now normal at 0.8.

CYBERKNIFE ADVANTAGES

- Excellent PSA response (9.1 to 0.8) with minimal side effects and little to no recovery time
- Reduction of rectal radiation due to the insertion of FDA-cleared hydrogel spacer
- CyberKnife's automatic motion tracking minimizes side effects to urinary and erectile function
- CyberKnife may be an option for patients unable or unwilling to undergo surgical prostatectomy or multiple weeks of daily conventional radiation treatment



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