

# SAR Prostate DFP

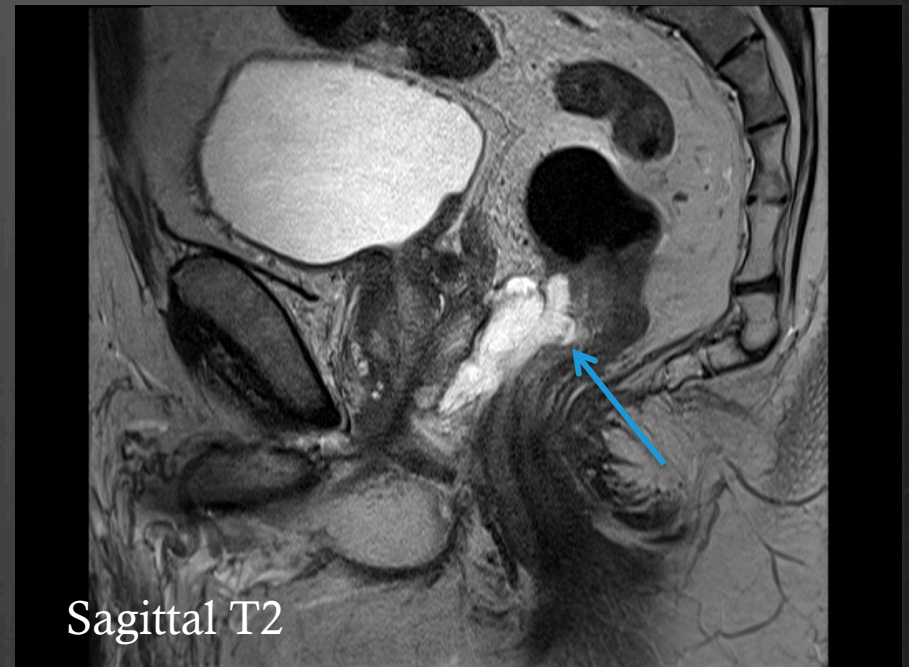
Case of the week

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# History & Imaging findings

67 year old male with rectal pain following hydrogel spacer placement prior to Proton Rx

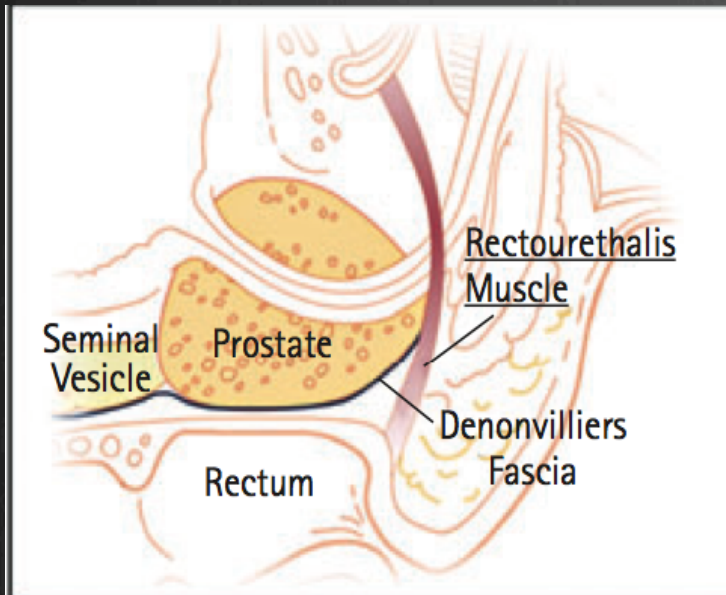


Axial and Sagittal T2 weighted MRI of the pelvis demonstrates the hyperintense hydrogel spacer (arrows) between the prostate and rectum but extending into a wedge shaped defect in the anterior rectal wall, an uncommon complication.

# Discussion

- ⦿ Proton therapy delivers focused and precise photon particles to the cancer tissue while minimizing the dose to the adjacent uninvolved tissue
- ⦿ Dose escalation results in improved tumor control but is associated with increased risk of radiation proctitis
- ⦿ Hydrogel spacers play a novel role in the treatment of low to intermediate risk prostate cancer

# Hydrogel Spacer Placement via Trans-perineal Approach Using Trans-rectal Ultrasound

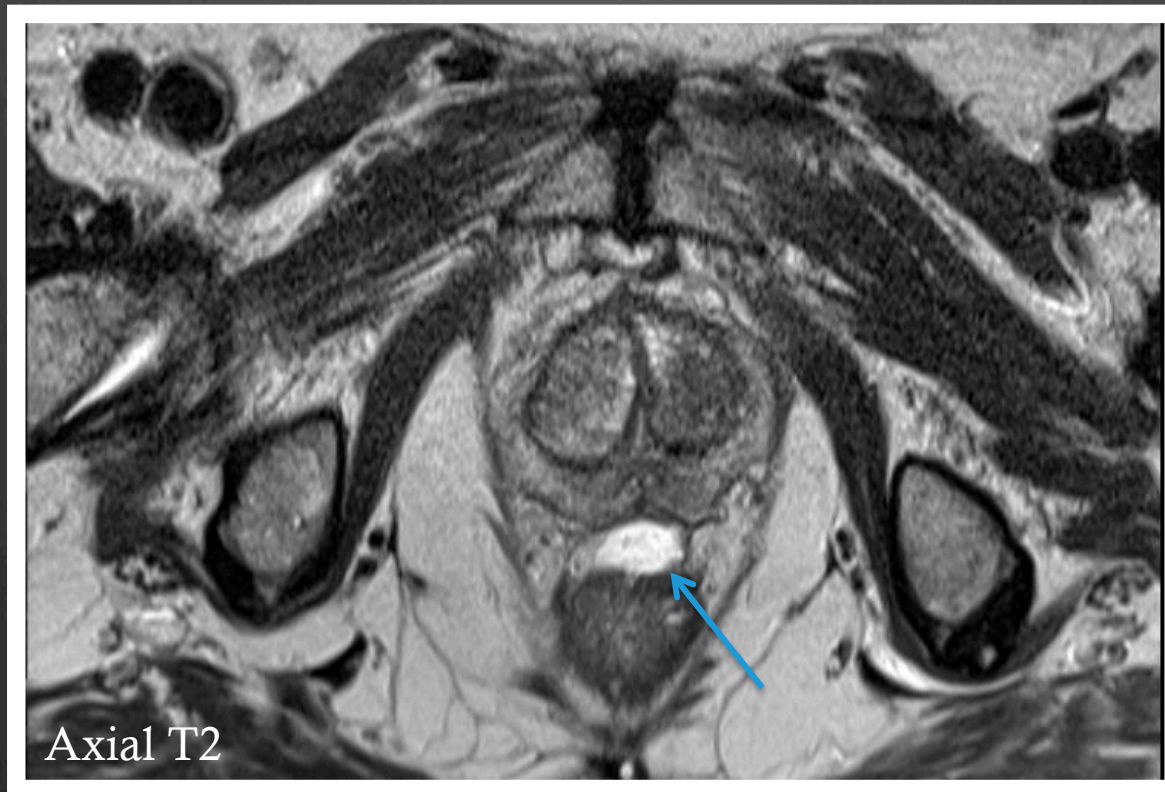


Source: BJU International

- Real time TRUS guidance for needle placement with subsequent penetration of rectourethralis muscle
- Hydro dissection with saline to open potential space between Denonvillier's fascia and anterior rectal wall
- Following confirmation of correct placement, 10mL hydrogel is administered
- Post procedural MR may be obtained to confirm hydrogel spacer placement



# Normal hydrogel spacer appearance



Axial T2 weighted MRI image of the prostate in a different patient, demonstrates the T2 hyperintense spacer (arrow) displacing the space between the rectum and prostate by 1cm, confirming normal hydrogel spacer placement

# Conclusion

- ⊗ Hydrogel spacers play a novel role in treatment of low to intermediate risk prostate cancer
- ⊗ Significant reduction in rectal radiation dosage with spacer
  - ⊗ Decreased incidence of radiation proctitis
  - ⊗ Allows for dose escalation to the prostate with improved tumor control
  - ⊗ Well tolerated with low incidence of post procedural side effects
- ⊗ As the number of patients undergoing Proton therapy continues to grow, the use of hydrogel spacer is expected to increase
- ⊗ It is important for radiologists to be familiar with the expected imaging findings and recognize the complications of hydrogel spacers

# References

- Sheridan AD, Nath SK et al. Role of MRI in the use of an absorbable hydrogel spacer in men undergoing radiation therapy for prostate cancer: What the radiologist needs to know. AJR 2017 209:4, 797-799
- Padmanabhan R, Pinkawa M, Song DY. Hydrogel spacers in prostate radiotherapy. A promising approach to decrease rectal toxicity. Future Oncol. (2017) 13(29),2697-2708