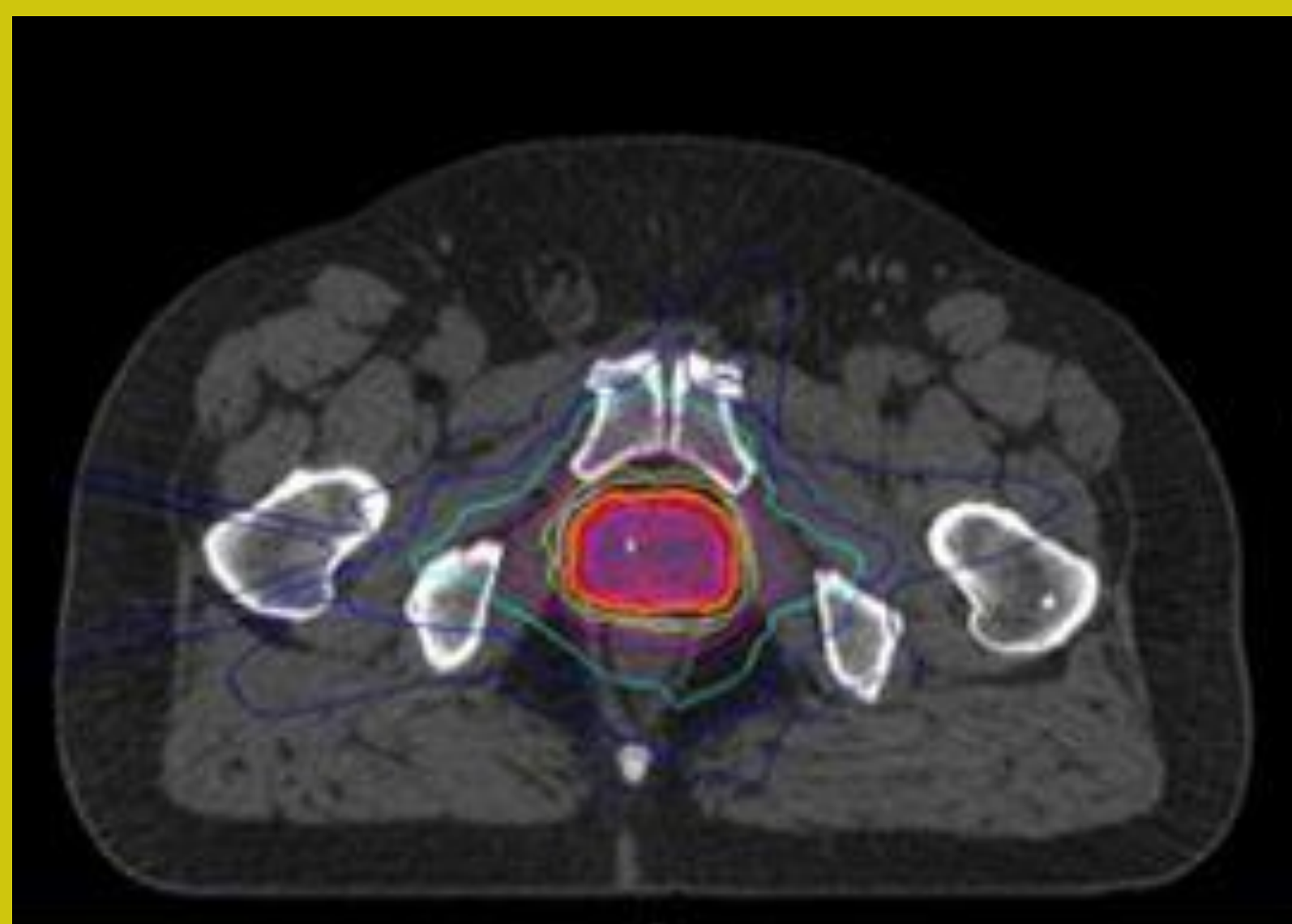


Implantation of Fiducial Markers for Stereotactic Body Radiation Therapy for Prostate Cancer Treatment: A study Conducted to Minimize Patient Discomfort

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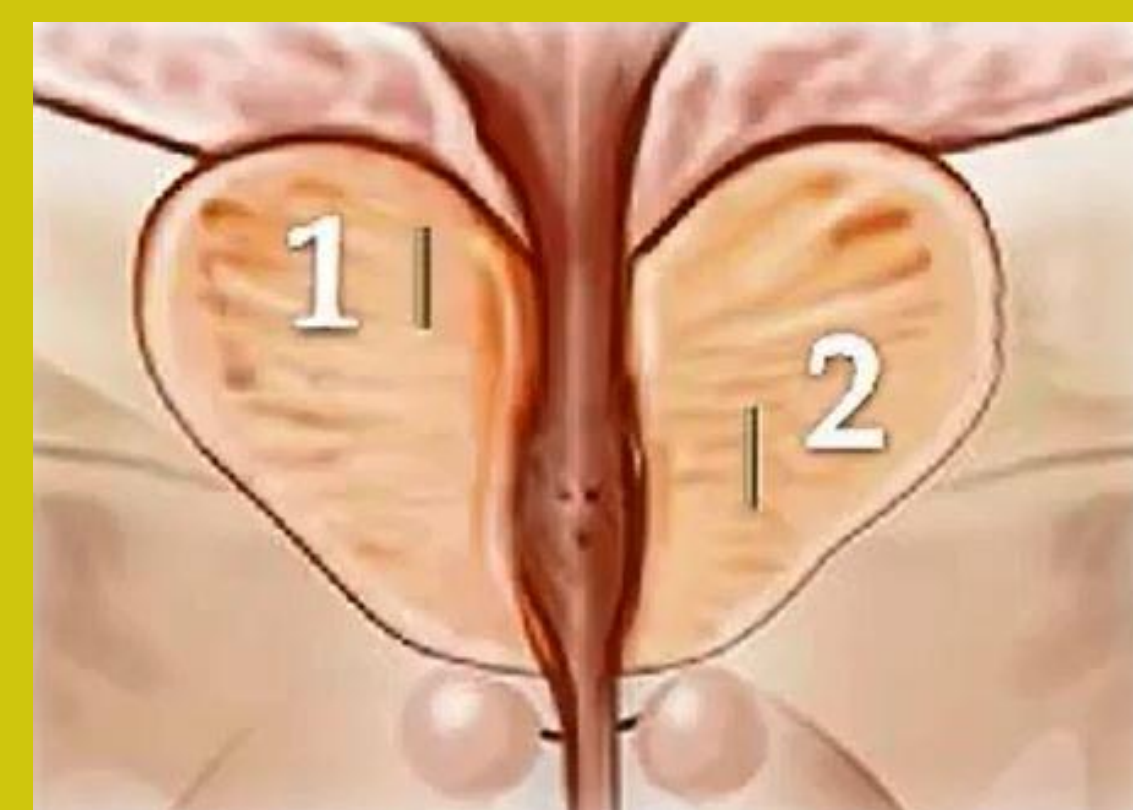
Background

- Patients with prostate cancer have a variety of treatment options. One of these options is Stereotactic Body Radiation Therapy (SBRT).
- In order for prostate cancer patients to undergo SBRT treatment they are required to receive implantation of fiducial markers into the prostate gland. T
- Fiducial markers track prostate motion to provide inter and intrafraction translation and rotation adjustment. This procedure is done under rectal ultrasound guidance with transperineal technique.
- The nurse plays a vital role during the fiducial placement procedure with the primary goal of infection prevention and pain management.
- In an attempt to decrease pain related to the fiducial procedures, our nursing department conducted a study to characterize patient discomfort with an objective to minimize patient pain level and improve patient satisfaction



Intervention / Method

- Standard practice at our institution requires the nurses to premedicate patients with EMLA cream 2.5% applied to patients' perineum, and topical lidocaine urojet 2% applied intrarectally.
- Between December 2017 and February 2018, our nurses monitored 45 consecutive patients with localized prostate cancer during transperineal fiducial implantation.
- In addition to EMLA and lidocaine, oral benzodiazepine and/or transperineal lidocaine were also administered prior to assessing patients' symptoms and reported satisfaction.
- 20 (44.4%) patients received transperineal lidocaine injection and 17 (37.8%) ingested Xanax prior to the procedure.
- Nurses monitored patients' vitals and assessed pain on a 0-10 analog scale, where 0 represented "No pain" and 10 "Unbearable pain". Nurses differentiated pain scores for the rectum (probe) and perineum (needles) and transcribed the results onto a grid.



Results

- The mean rectal pain level was 4.7 and mean perineal pain level was 5.0.
- Ultimately, the mean perineal pain was lower for patients who elected for transperineal lidocaine (4.2 vs. 5.8), representing a 27.6% reduction in pain.
- Oral benzodiazepine use did not predict for perineal or rectal pain.

Conclusion

- Transperineal fiducial marker implantation is a well-tolerated outpatient procedure.
- Patient reported rectal and perineal pain levels are measurable by the RN and, though correlated, differ in results. Providing transperineal lidocaine, in addition to EMLA and lidocaine urojet, significantly reduces perineal pain associated with fiducial placement.
- These findings enable the nurses to give patients a choice in receiving additional medication for pain management and ultimately lead to increased patient satisfaction.

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