Pitfall in the interpretation of mp-MRI of the Prostate: Artefact due to mispositioned endorectal coil

Tharak Bathala, MD
Associate Professor, Department of Abdominal Imaging

Janio Szklaruk, MD
Professor, Department of Abdominal Imaging

Jingfei Ma, Ph.D
Professor, Department of Imaging Physics

@tharakbathala
57 y.o. male with elevated PSA of 12.7 ng/dl

Interpreted as PI-RADS 5 lesion measuring 1.5 x 0.9 cm in the right posterior lateral peripheral zone
57 y.o. male with elevated PSA of 12.7 ng/dl

Interpreted as PI-RADS 5 lesion measuring 1.5 x 0.9 cm in the right posterior lateral peripheral zone
• Prostatitis on subsequent target biopsy two months after mp-MRI.
• PSA decreased to 3ng/dl
• Focal hyperintense signal abnormality in posteriolateral PZ on high b-value DWI is an artefact, near to the wrongly placed coil antenna due to mispositioned endorectal coil.
• Findings on T2W and DCE are consistent with prostatitis; High b-value DWI is falsely positive.
• Proper position of the endorectal coil is crucial for optimal image quality.
• Scout images are important to confirm coil position.
• Coil antenna should be centered on the prostate and in a plane perpendicular to the left–right phase encoding direction.
• Coil tilt more than 20 degree can cause focal hyperintense signal abnormality in the posteriolateral PZ on high b-value DWI image near to the wrongly placed antenna.
• Mispositioned coil can cause local field inhomogeneity and lead to artefacts mimicking a tumor on synthetic high b-value DWI images.
