

Imaging Features of the Hypointense Solid Lesions on T2-Weighted MR Images in the Genitourinary Tract

S. Park¹

¹Radiology, Cheil General Hospital and Women's Healthcare Center, Kwandong University College of Medicine, Seoul, Seoul, Korea, Republic of

Background and Purpose

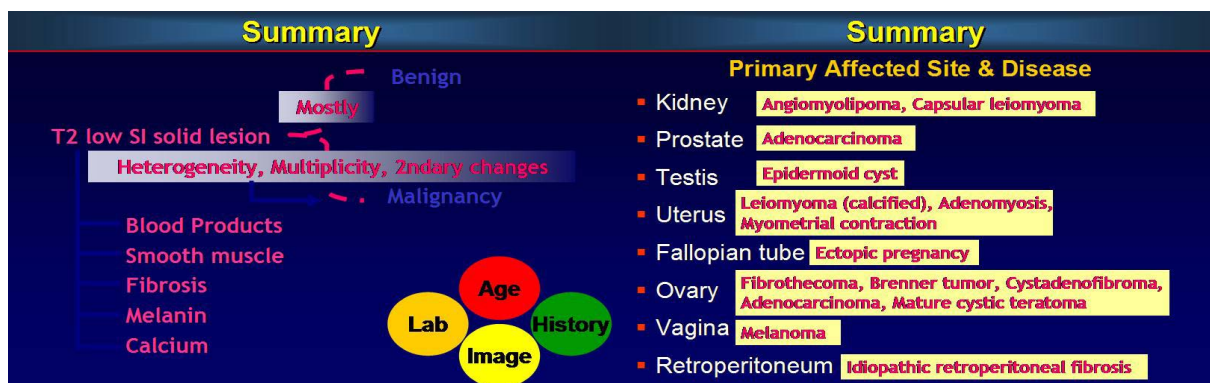
The vast majority solid lesions are hyperintense on T2-weighted MR images and suggest malignancy. Rarely, however, some solid lesions may appear hypointense on those images. Causes for this uncommon appearance include deposition, related to the presence of blood degradation products, macromolecules and other conditions. The purpose of this presentation is to discuss MR strategies for identification and characterization of hypointensity lesions on T2-weighted MR images in the genitourinary tract.

Material and Methods

In this presentation, we demonstrate various causes of hypointense lesions on T2-weighted MR images in the genitourinary tract as follows; blood degradation products (hemorrhage or hematoma, ectopic pregnancy, endometriosis), macromolecules including smooth muscles (uterine leiomyoma, adenomyosis, myometrial contraction, angiomyolipoma), fibrosis (fibrothecoma, Brenner tumor, cystadenofibroma, adenocarcinoma, inflammatory pseudotumor, solitary fibrous tumor, idiopathic retroperitoneal fibrosis, epidermoid cyst, deep endometriosis), melanin (melanoma) and calcium (calcified uterine leiomyoma, ovarian teratoma). We correlate imaging features with clinical and pathologic features.

Results

Hypointense solid lesions on T2-weighted MR images in the genitourinary tract are broad spectrum from benign to the malignant as well as microscopic to the macroscopic contents. Identification and characterization of hypointense lesion can be crucial and important clue for differential diagnosis.



Conclusion

Recognition of hypointensity on T2-weighted MR is important because it helps narrow the differential diagnosis and the location of hypointensity on T2-weighted MR is crucial to correct interpretation on the imaging findings. Familiarity with the clinical setting and imaging appearances will facilitate prompt, accurate diagnosis and treatment.