MR Imaging of Fibroids, Treatment Options, and Treatment Effects
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This talk will review the MR features of uterine fibroids and discuss features which can be present in leiomyosarcomas. MR imaging techniques for evaluating patients with fibroids will be discussed along with fibroid therapies. MR imaging features following image-guided therapies including uterine artery embolization and MR guided Focused Ultrasound (MRgFUS) will be presented.

Leiomyomas (fibroids) are benign tumors of the uterus occurring in as many as 70-80% of women. These tumors may cause symptoms including: pelvic pain, pressure, menorrhagia, dysmenorrhea, and urinary frequency. Treatment options for symptomatic fibroids have expanded over the years to include: hormonal therapy, myomectomy including hysteroscopic and laparoscopic techniques, uterine artery embolization, as well as hysterectomy. In 2004, the magnetic resonance guided focused ultrasound device ExAblate®2000 (InSightec, Haifa, Israel) was approved by the U.S. Food and Drug Administration specifically for treatment of uterine fibroids.

Uterine leiomyomas are usually low signal intensity on T2 weighted images, sharply marginated and enhance following IV gadolinium. Leiomyomas however, may vary in signal intensity depending on the type and degree of degeneration present. Sarcomatous degeneration of fibroids is rare occurring in less than 1% of cases. However, as more non-surgical treatment options are utilized in the treatment of patient with symptomatic leiomyomas evaluation for features suggesting malignancy is important. MRI features including irregularity of the margins of the mass as well as the
potential use of dynamic contrast enhanced MRI exams in associated with LDH levels may be helpful in evaluation for sarcomas.\textsuperscript{3-4}

Image-guided therapies have become more common as women with symptomatic uterine fibroids seek alternatives for treatment which are less invasive and allow for more rapid return to normal daily activities than surgical options. Uterine artery embolization has become an accepted treatment option for women with symptomatic uterine fibroids. Compared to surgical alternatives, uterine artery embolization has been shown to have fewer complications, shorter hospital stays, and a more rapid return to normal daily activities.\textsuperscript{5-8} MRgFUS is less well-studied but early studies show that the technique is promising. MRgFUS demonstrates a lower rate of serious adverse events compared to uterine artery embolization; patients experience minimal post-procedure discomfort typically, and are able to return to work usually the day following the procedure.\textsuperscript{9-16}

Imaging features following these procedures will be present.

References