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NEWS

RSNA Press Release

MRI Accurately Depicts Deep Endometriosis

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At A Glance

- Using 3-Tesla (3-T) MRI, radiologists can diagnose and stage deep endometriosis for surgery.
- Deep endometriosis may infiltrate the cervix, vagina, colon, bladder or ureter.
- Over 5 million American women have endometriosis. Symptoms may include chronic pelvic pain and infertility.

OAK BROOK, Ill. (July 7, 2009) — Using magnetic resonance imaging (MRI), radiologists may be able to diagnose deep endometriosis and accurately locate lesions prior to surgery, according to a new study published in the online edition of *Radiology*.

"Pelvic MRI at 3 Tesla is a noninvasive technique that allows a complete examination of the pelvis," said the study's lead author, Nathalie Hottat, M.D., from the Department of Radiology at Erasme Hospital and the Université Libre de Bruxelles in Brussels, Belgium. "It accurately depicts all locations of deep endometriosis."

Endometriosis is a chronic and painful disease that results when uterine tissue, called endometrium, grows outside the uterus. Endometrium can attach to other organs, such as the ovaries, fallopian tubes, bowels and bladder. Endometriosis is one of the most common health problems affecting women. According to the U.S. Department of Health and Human Services, approximately 5 million American women have endometriosis. Symptoms include chronic pelvic pain, lower back pain, painful sexual intercourse, painful menstrual cramps, fatigue and infertility.

There are two types of endometriosis: superficial and subperitoneal (deep). Deep endometriosis infiltrates areas of the cervix, vagina and/or the colon, and, less frequently, the bladder and ureter. Superficial endometriosis can be treated with laparoscopy, but deep endometriosis sometimes requires complete surgical excision of the lesions.

It is important that the diagnosis and staging of the disease distinguish between the two types in order to guide the surgeon to schedule the most appropriate procedure. Therefore, the researchers set out to determine the accuracy of 3-T pelvic MRI in diagnosing the presence of deep endometriosis and to evaluate colon wall involvement.

The researchers studied 41 women, age 20 – 46, with suspected endometriosis. MRI was performed prior to surgery. MRI accurately diagnosed 26 of 27 cases of deep endometriosis. In addition, MR images accurately depicted specific locations of deep endometrial lesions.

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"The 3-T MRI results also demonstrated a high negative predictive value of 93.3 percent," Dr. Hottat said, "meaning that MRI findings accurately ruled out deep endometriosis in patients with superficial endometriosis, allowing the surgeon to perform the less invasive laparoscopic procedure."

Colon wall involvement was present in 32 percent of patients with deep endometriosis. MRI was effective at distinguishing different layers of the affected colon wall and accurately depicted the degree of colon wall invasion.

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"Endometriosis: Contribution of 3.0-T Pelvic MR Imaging in Preoperative Assessment—Initial Results." Collaborating with Dr. Hottat were Caroline Larrousse, M.D., Vincent Anaf, M.D., Ph.D., Jean-Christophe Noël, M.D., Ph.D., Celso Matos, M.D., Julie Absil, Ph.D., and Thierry Metens, Ph.D.

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