Round ligament endometriosis

Clinical History:

Endometriosis is an important gynecologic disorder primarily affecting women during their reproductive years. We present a rare location of endometriosis in the inguinal canal in a young, 32-year-old woman who had no previous medical history.

Imaging Findings:

A 32-year-old woman presented with right–sided lump and pain in her groin increasing in size during menstruation, ongoing for 6 months, but worsening the last 2 months. She had no medical history of gynecological procedures or caesarian section and no other symptoms. Ultrasound examination revealed a 14X20 mm egg-shaped nodule in the right inguinal region without specific features. A CT scan showed a 2 cm well defined round mass in the external ring of inguinal canal with some homogeneous enhancement (fig. 1). MRI examination of the patient confirmed the CT findings and revealed a heterogeneous intermediate signal intensity mass on T2-wt (fig. 2). After a right inguinal oblique incision, the inguinal canal was opened and a soft tissue mass of 1.5 X 2 cm firmly adhesive to the extraperitoneal portion of the round ligament inclining towards pubic tubercle was found. The lump and the inguinal part of the round ligament were removed. Histological examination showed the presence of endometrial glands surrounded by endometrial stromal cells in a fibrous wall (fig. 3).

Discussion:

Endometriosis is classically defined as the presence of functional endometrial glands and stroma outside the uterine cavity. Endometriosis interna refers to endometrial tissue within the uterine musculature is called adenomyosis and endometriosis externa refers to endometrial tissue in all other sites is simply called endometriosis.1

Endometriomas are internal hemorrhages within an area of endometriosis resulting in endometriotic cysts. Endometriosis may be located in the pelvis or be extrapelvic. Symptoms are neither specific nor pathognomonic for endometriosis.2 These can include dysmenorrhea, chronic pain (typically lower back pain and pelvic pain, also abdominal), dyspareunia, menorrhagia, nausea and vomiting, symptoms from the gastrointestinal and urinary tract, bleeding between periods and infertility. The extrapelvic implantation of endometrial tissue has been described in virtually every organ but in most cases endometriosis is found on structures in the pelvic cavity as ovaries, Fallopian tubes, the anterior or posterior surface of the uterus and the cul-de-sac, uterine ligaments, intestines and urinary bladder.2

The abdominal wall is a uncommon site of extrapelvic endometriosis, where it usually develops in an old surgical scar and frequently is confused with other entities such us hernia, suture granuloma, lipoma, primary and metastatic malignancy and lymphadenopathy.3 Clinically extrapelvic abdominal wall endometriotic sites may produce
symptoms such as swellings over scars or inguinal canal, umbilical nodule, recurrent or localized abdominal pain with a catamenial character. The etiology is unknown. Many theories have been presented to explain endometriosis development but the most popular theory is that of retrograde passage of endometrium into the peritoneal cavity through the fallopian tubes during menstruation, allows implantation of viable endometrial cells into the peritoneal surface. Endometriosis has many different appearances on imaging tests such as nodules or endometriomas. Normal results on these tests do not eliminate the possibility of endometriosis, as areas of endometriosis are often too small to be seen by these tests. On ultrasound, endometriomas appear as cystic hypoechoic to anechoic masses, which may contain septae or fluid-debris levels. Such cysts are typically multiple and measure 2-5 cm in size. At CT, endometriomas appear as well defined masses, with attenuation values varying between water and soft tissue density.

Endometriosis may display variable appearance on MRI. Lesions may be composed of a variety of tissues, including a hemorrhagic fluid component, hemorrhagic solid component and fibrotic tissue. On T1-WI endometriosis typically displays as a lesion containing a single or multiple cysts with high signal intensity due to hemorrhage, or it may be more heterogeneous in appearance. On T2-WI endometriosis tends to be heterogeneous with low signal intensity within loculi due to repetitive bleeding. After intravenous gadolinium the wall of an endometrioma may demonstrate rim enhancement.

Although the imaging appearance of endometriomas of the ovaries is very specific, the diagnosis of extraovarian endometriotic implants may be difficult, particularly in small size lesions, and in atypical locations, as in our case. In these cases laparoscopy is warranted, which allows also surgical excision and the histological confirmation.

**Differential Diagnosis List:** Endometriosis of the round ligament.

**Final Diagnosis:** Endometriosis of the round ligament.

**References:**
