

MRI appearance of an ovarian fibroma

Published on 30.07.2001

DOI: 10.1594/EURORAD/CASE.1209

ISSN: 1563-4086

Section: Genital (female) imaging

Imaging Technique: MR

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Case Type: Clinical Cases

Authors: JF. Deux, C. Balleyguier, E. Thibaud, O.

Hélénou, Y. Menu

Patient: 47 years, female

Clinical History:

Pelvic pain with fast growing pelvic mass.

Imaging Findings:

Frequent pelvic pain. Endovaginal ultrasonography revealed a 10 cm solid hypoechoic mass close to the uterus, with marked attenuation. Three months before, the mass was 3 cm smaller. Diagnosis between solid ovarian mass or pedunculated leiomyoma was not possible. MRI examination showed a 10 cm pelvic mass with well defined margins. On T2-weighted images the mass showed a heterogeneous signal with areas of high intensity. A well defined margin was seen between the mass and the uterus. On T1-weighted images the lesion showed a homogeneous signal. Fat-suppressed axial T1-weighted images obtained after gadolinium injection demonstrated extensive heterogeneous enhancement. There was a different enhancement between the mass and the uterus. Only the left ovary was visible. A large amount of peritoneal fluid was located in the pouch of Douglas. A primary ovarian lesion of gonadal stromal cell origin was considered: an ovarian fibroma or fibrothecoma were suggested because of the middle age of the patient, echographic appearance, well defined margin and signal intensity. Surgery confirmed the diagnosis of right ovarian fibroma.

Discussion:

Fibromas and fibrothecomas are the most common solid primary tumors of the ovary, accounting for 4 % of all ovarian tumors. They are almost always benign and encountered in middle-aged women. These gonadal stroma cell origin tumors contain spindle cells, collagen, and theca cells for fibrothecomas. They may be associated with endometrial hyperplasia and endometrial polyps. Ascite or pleural effusions (Meig syndrome) may be present. At US these lesions are generally hypoechoic with posterior wall attenuation. Diagnosis between a pedunculated leiomyoma and an ovarian mass may be difficult. MR imaging allows differentiation between adnexal mass and leiomyoma. Usually, fibroma and fibrothecoma present as a solid mass, with well defined margins and a low signal intensity on T1 and T2 weighted images. These tumors may show areas of high signal intensity on T2 weighted images consistent with edema for small lesions (<6 cm) or cystic degeneration for larger ones. A band of T2 hypointensity separating the tumor from the uterus on all imaging planes is also characteristic. Gadolinium injection generally results in a heterogeneous enhancement but does not provide further information.

Differential Diagnosis List: Ovarian fibroma

Final Diagnosis: Ovarian fibroma

References:

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Figure 1

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Description: Pelvic mass with well defined margin. Heterogeneous signal intensity of the lesion with high signal intensity areas. Note differences of signal intensity between mass and uterus. **Origin:**

Figure 2

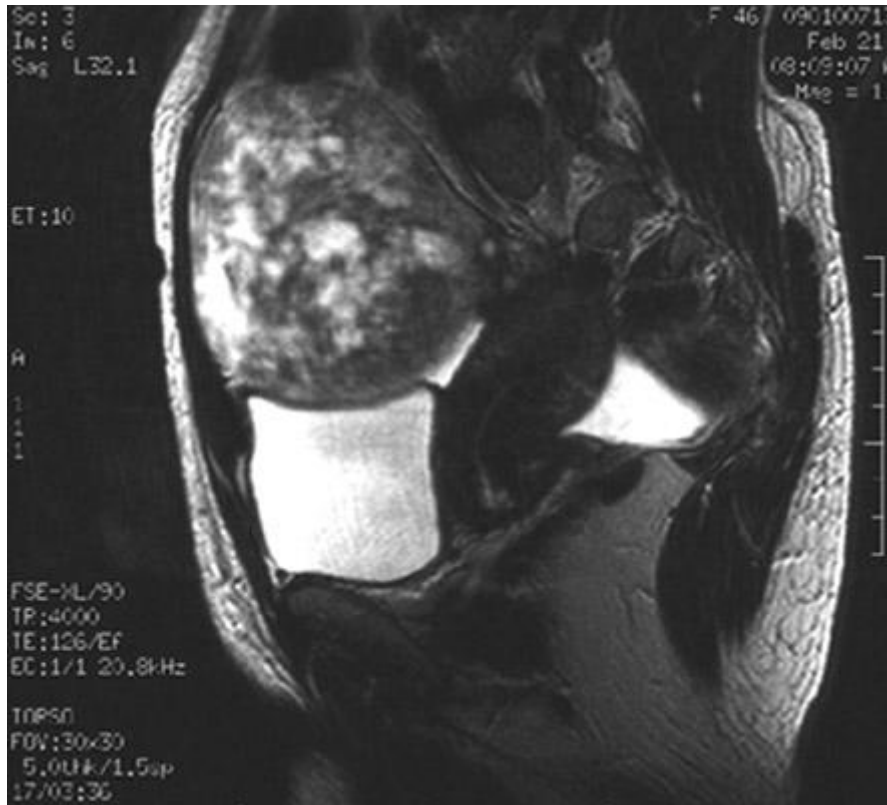
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Description: Left ovary is present between uterus and posterior wall of the bladder. Right ovary is not visible. **Origin:**

Figure 3

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Description: Heterogeneous anterior pelvic mass with sharp borders. The mass is distinct from uterus on sagittal image. Peritoneal fluid was also present. **Origin:**

Figure 4

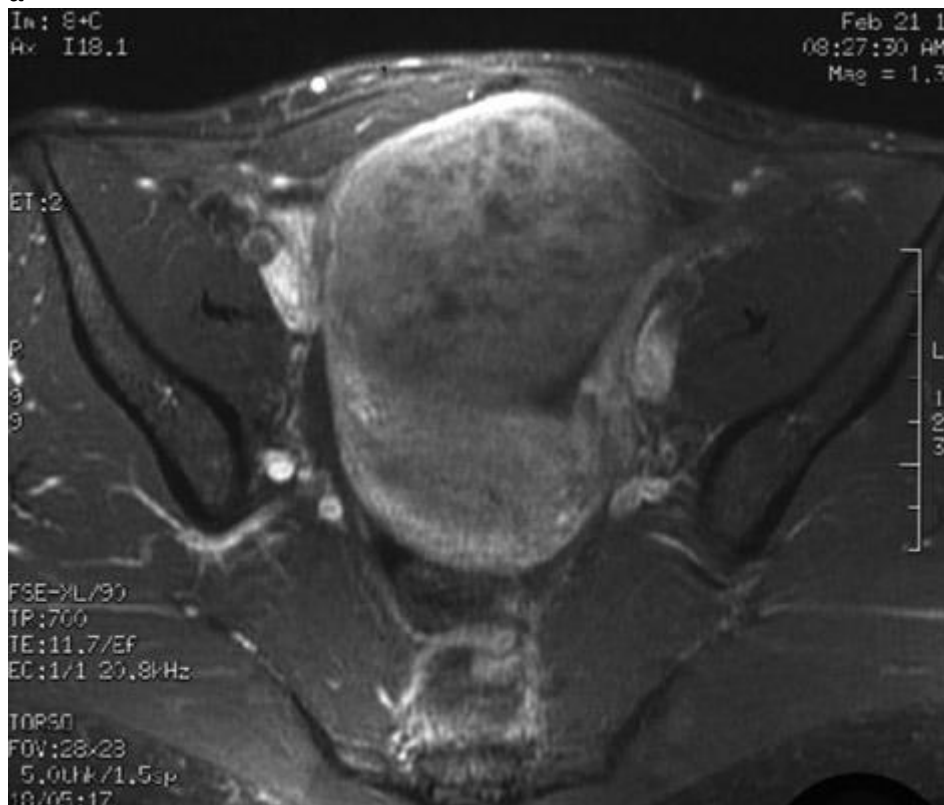
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Description: Pelvic mass with homogeneous signal close to signal of the uterus. **Origin:**

Figure 5

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Description: The mass showed an heterogeneous enhancement compared to myometrial enhancement, which allows the distinction between an ovarian mass and a uterin leiomyoma. **Origin:**