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Leiomyomatous Tumors, Uterus

- Uterine leiomyoma (uterine fibroid) is a benign tumor of myometrial (smooth muscle) origin; it is the most common solid benign uterine neoplasm. Its prevalence increases with age and it is more common in black than in white women. It can be solitary or multiple, with different locations within the uterus: intramural (most common), subserosal, and submucosal, some even being pedunculated.
- CT: CT imaging is not the investigation of choice for the characterization of pelvic masses. Uterine fibroids are often an incidental finding on CT scans performed for other reasons. The typical finding is an enlarged and irregular uterus or a mass in continuity with the uterus. 4 % of fibroids contain calcifications. Most myomas enhance with contrast similar to normal myometrium.
- MRI: MRI is the preferred method for accurately characterizing and localizing pelvic masses. Nondegenerated leiomyomas appear isointense to hypointense on T1-weighted images and hypointense on T2-weighted images. The routine use of

gadolinium has been shown not to contribute to either fibroid detection or characterization.

Leiomyomatosis

- Diffuse leiomyomatosis is a rare condition that consists of diffuse involvement of the myometrium by innumerable small fibroids, which results in symmetrical enlargement of the uterus.
- Although it is a completely benign condition, there may be dissemination through the peritoneal cavity or occasionally metastases to distant organs.

Leiomyosarcoma, Uterus

- It is a rare malignant tumor, composed entirely of smooth muscle. It accounts for one-third of uterine sarcomas. It may arise in a previously existing benign leiomyoma (sarcomatous transformation) or independently from the smooth muscle cells of the myometrium. Rapid growth and extensive metastasis are frequently encountered with leiomyosarcomas.
- CT: Leiomyosarcoma appear as either a massive uterine enlargement with multiple sarcomatous nodules and irregular central zones of low attenuation, suggesting extensive necrosis and hemorrhage or extensive invasion. Calcifications may be present.
- MRI: Although it has been suggested that an irregular margin of a uterine leiomyoma at MR imaging and a heterogeneous MRI signal are suggestive of sarcomatous transformation, the specificity of these findings has not been established yet. MR imaging findings are variable and include a lobulated mass of high signal intensity on T2-weighted images, a sharply marginated mass of low signal intensity that closely resembles a leiomyoma, or a mass with focally infiltrative margins.

Lipoleiomyomas

- Lipoleiomyomas are rare fat-containing fibroids.
- MRI: they typically show high signal intensity on T1 and low signal intensity on T2-weighted images. Fat-suppression techniques are helpful to confirm the presence of fat.

Lymphangiomyomatosis, Renal

- It consists in a lymphatic developmental malformation, resulting in cystic mass perirenal, peripelvic, and intrarenal regions. The lesions may be unilateral or bilateral and diffuse or focal. It is characterized by cortical dilated endothelial-lined spaces, without glomerular or tubular abnormalities.
- CT: The lesion appears as a subcapsular hypodense mass with fluid density; it has the appearance of a uni- or multi-ocular cystic lesion with or without associated peripheral or septal enhancement.
- MRI: Variable signal intensity on T1-weighted images, but usually low signal; high signal intensity on T1-weighted images is seen when the cyst contains proteinaceous material. The cysts have in general high signal intensity on T2-weighted images.

Lymphocele

- It consists in an accumulation of lymph in a cystic structure, with a history of lymph node dissection. A perirenal lymphocele refers to an abnormal encapsulated collection of lymph within the pelvis; it can potentially occur after renal transplant.
- CT: round, hypoattenuating collection, with water density. It may be bilateral.

Lymphoma/Leukemia, Renal

- Primary renal lymphoma is rare; the kidney is commonly involved by metastatic lymphoma or by direct invasion. Involvement with non-Hodgkin's lymphoma is considerably more common than Hodgkin's lymphoma.
- CT: Renal lymphoma has a wide variety of CT appearances. Typical findings include multiple renal masses, solitary masses, invasion from contiguous retroperitoneal lymphoma, perirenal disease, and diffuse renal infiltration, usually bilateral. Masses are usually homogenous and poorly enhancing.
- MRI: On T1- and T2-weighted images, lymphoma is isointense or slightly hypointense to renal parenchyma; postcontrast it shows minimal heterogeneous enhancement.

Suggested Reading

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