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Research Letter

A rare case of pure uterine giant lipoma

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Dear Editor,

We encountered a rare case of uterine pure giant lipoma. Pure lipoma of the uterus is a very rare entity with an estimated occurrence of 0.03–0.12% [1,2]. To date, the histogenesis of lipomatous tumors has not been determined.

A 73-year-old woman complained a sensation of pelvic heaviness and severe urge incontinence.

Ultrasound showed an enlarged uterus, 16 weeks' size, with a round hyperechogenic lesion of 15 cm × 14 cm, compressing the bladder and a bladder compression. Endometrial thickness was dislocated by the voluminous lesion. Magnetic resonance imaging (Figure 1A) showed the presence of two lesions with low-intensity signals (4 cm × 3.2 cm; 2 cm × 2.8 cm) and another one with a high-intensity signal on T1-weighted images (15 cm × 12 cm). A hysteroscopic specimen showed atrophic endometrium. Total abdominal hysterectomy with bilateral salpingo-oophorectomy was performed. Hysterectomy revealed an enlarged uterus (19 cm × 11 cm × 13 cm) due to the presence of three globular masses, which appeared as well-circumscribed intramural tumors.

The lipoma was the largest of these globular masses, soft in consistency and homogeneously yellow (Figure 1B). No smooth muscle cells or fibrous elements were present intratumorally (Figure 1C, D); therefore, it was diagnosed as a pure lipoma [1]. Although the fat cells showed slight variety in size, no overt nuclear atypia or mitotic figures were detected. In our case, the coexistence of both leiomyomas and a pure lipoma may be linked to estrogens, progestogens and a number of local growth factors as well, which could stimulate the growth of lipomas as it is demonstrated for leiomyomas. As fat tissue is not native to the uterus, various theories of histogenesis have been proposed. According to the literature, fatty metaplasia of the connective tissue or the smooth muscle cells seems to be the most plausible histogenetic cause involved in the development of uterine lipomas [3,4]. Multivacuolated lipoblasts were seen. Smooth muscle cells in the surrounding tissue were reactive to actin, desmin, and vimentin. Estrogen receptor, and progesterone receptor were present; focal actin and desmin were found in granular or filament form in the cytoplasm of the fat cells. Preoperative diagnosis of uterine lipomas is generally very difficult. The absence of nonadipose components and the presence of a homogeneous mass with a large amount of fat, may indicate a pure lipoma. In our case, since the lesion was homogeneous and consisted entirely of fat, we suspected that it was a pure lipoma.

Magnetic resonance imaging is the best imaging modality for diagnosing lipomatous tumors and for distinguishing between mixed and pure types [5]. In recent years, characteristic chromosomal abnormalities have been found in adipose tumors. Lipomas are frequently characterized by aberrations of the 12q13 approximately q15 chromosomal region and often by rearrangements of the HMGA2 gene. These rearrangements include the formation of chimeric genes that fuse the 5′ region of HMGA2 with a variety of partners, such as LPP (3q28) or NFIB (9p22) [6]. To improve data in literature regarding the histological origin of the tumor, we suggest to not fix the entire surgical specimen in formalin, to allow cytogenetic analysis.

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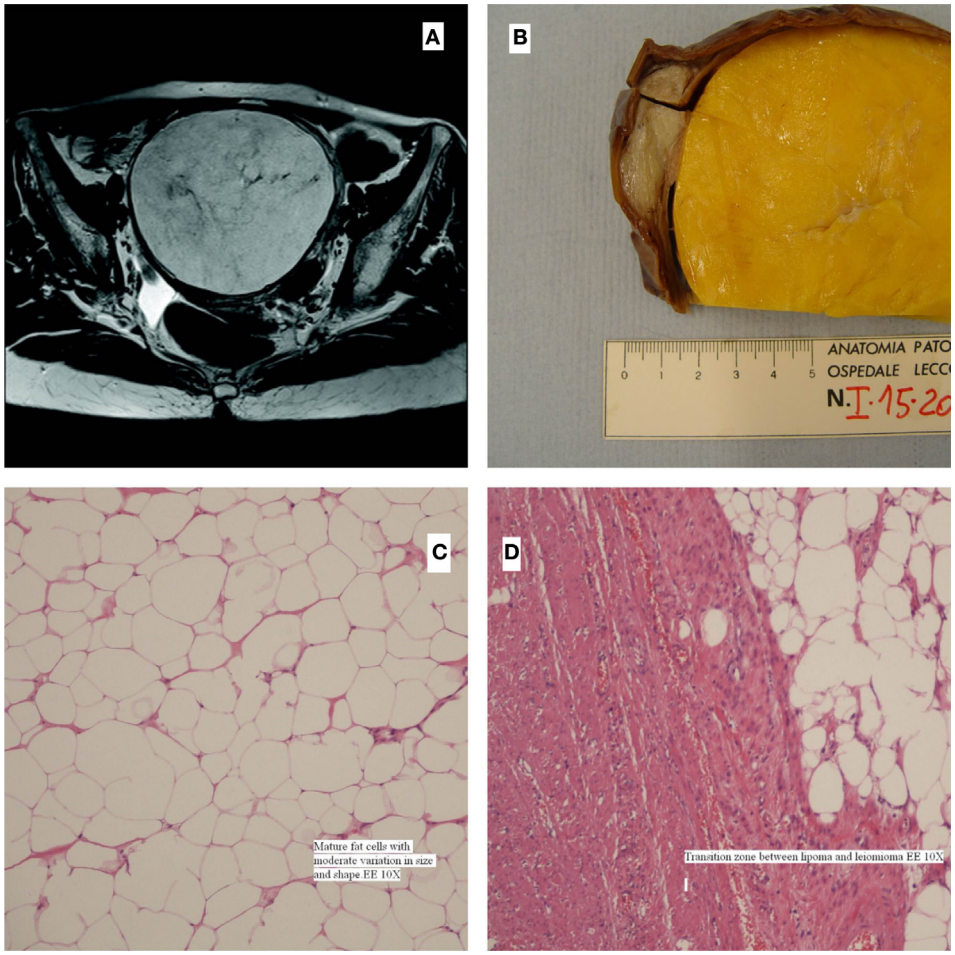

Figure 1. (A) Axial T1-weighted image shows a well circumscribed mass of high signal intensity. (B) A submucosal, well circumscribed lipoma with soft yellow-cut surface. (C, D) Mature adipocytes of lipoma arranged in large confluent nodules. The transition zone between lipoma and leiomyoma is clearly visible.

Conflicts of interest

The authors have no conflicts of interest relevant to this article.

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