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Case Report

Uterine adenofibroma and endometrial stromal sarcoma associated with tamoxifen therapy: MR findings

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Abstract

Tamoxifen therapy may result in a variety of endometrial proliferative lesions, including adenofibroma and endometrial stromal sarcoma (ESS). This report describes the MR findings of adenofibroma and ESS associated with tamoxifen therapy. When MRI demonstrates a uterine mass appearing as a heterogeneous mass in the endometrium or myometrium, adenofibroma and ECC must be considered as rare, but possible, diagnoses.

Keywords: Tamoxifen therapy; Endometrial neoplasms; MR imaging

Uterine adenofibroma, first reported in 1959 by Ober [1], is an uncommon variant of mixed mesodermal tumor [2–4]. It most commonly occurs in postmenopausal women. Hysterectomy is generally resorted to because of the obvious potential for tumor recurrence [5]. Endometrial stromal sarcoma (ESS) is a rare uterine mesenchymal tumor that is reported to account for 0.2% of all uterine malignancies [6]. We describe here the magnetic resonance imaging (MRI) findings of two cases of uterine adenofibroma and ESS associated with tamoxifen therapy experienced by us.

1. Case report

1.1. Case 1

A 74-year-old woman, who was postmenopausal, had been taking tamoxifen 20 mg daily for 3 years for breast cancer. She was asymptomatic, but on routine ultrasound a mass was detected in the uterus, for which she was referred for MRI examination. Routine hematological, biochemical and tumor marker determinations revealed no particular abnormalities. On pelvic examination, the uterus was slightly enlarged, while the cervix appeared normal. On sagittal T2-weighted MR images, a heterogeneously hyperintense mass with septum-like strands and mural nodules was seen within the uterine cavity (Fig. 1a). On T1-weighted images, the mass was heterogeneously hypointense (Fig. 1b), and the tumor was septum-like and showed mural nodule enhancement (Fig. 1c). On gadolinium dynamic study, the main component of the tumor was hypovascular (Fig. 1d and e), but the septum-like strands and mural nodules showed early enhancement and plateau (Fig. 1d and e). Radical hysterectomy was performed and pathologic examination of the resected uterus showed uterine adenofibroma.

1.2. Case 2

A 74-year-old woman, who was postmenopausal, had been taking tamoxifen 20 mg daily for 5 years for breast cancer. She complained of genital bleeding and lower abdominal pain. On US a solid mass was noted in the uterus. Notable hematological/biochemical findings included a decreased platelet count (134,000) and elevated levels of LDH (1621 u/1) and CPK (397 u/1). Of tumor markers, CA125 was elevated. On sagittal T2-weighted MR images, a heterogeneous iso-intense mass was seen within the uterine cavity and infiltrated the myometrium (Fig. 2a). On T1-weighted images, the mass showed heterogeneous slight hyperintensity (Fig. 2b), and the tumor showed nodular and peripheral heterogeneous enhancement (Fig. 2c). On gadolinium dynamic study, the main component of the tumor was hypovascular (Fig. 2d and e), but a mural nodule showed

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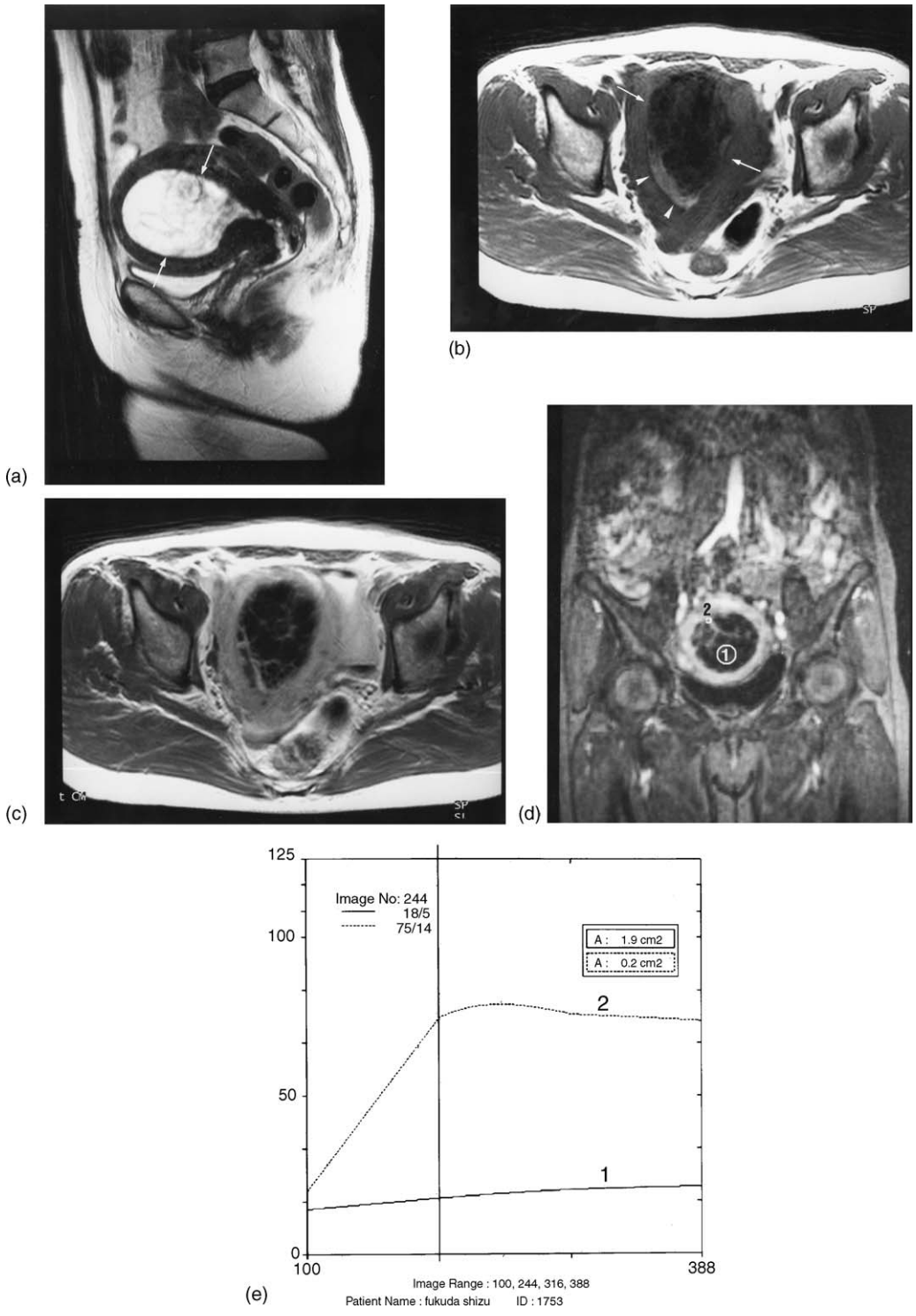

Fig. 1. Case 1: (a) on sagittal T2-weighted MR image (4500/120), a large heterogeneous mass (arrow) is seen in the endometrial cavity; (b) on axial T1-weighted MR image (500/12), the endometrial mass is seen as heterogeneous hypointense (arrow) and partial hyperintense (arrowhead) area representing hemorrhagic foci; (c) Gd-enhanced axial T1-weighted image (500/12) in the equilibrium phase shows enhancing septum and mural nodule; (d) 3D Gd-dynamic study (4.0/1.6; flip angle 30) shows septum-like and mural nodule enhancement (early peak and plateau) [1] in the hypovascular mass [2].

early enhancement and plateau (Fig. 2d and e). Pathologic examination of a curettage biopsy specimen showed uterine sarcoma. Disease progression was rapid, and the patient died 2 weeks after the biopsy. The final pathologic examination showed uterine high grade ESS.

2. Discussion

Tamoxifen, a nonsteroid triphenylethylene derivative that is structurally related to the synthetic estrogen diethylstilbestrol [7], is the most widely prescribed anticancer agent [8].