Large paravaginal angiomyofibroblastoma: magnetic resonance imaging findings

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Abstract Angiomyofibroblastoma (AMFB) is a rare, benign, mesenchymal tumor that occurs mainly in the female lower genital tract. We report on a large posterior paravaginal AMFB that presented as a buttock mass, describing the magnetic resonance imaging (MRI) features of the disease. The tumor displays heterogeneous signal intensity on T2-weighted MRI and fast and persistent inhomogeneous enhancement on dynamic gadolinium-enhanced MRI.

Key words Angiomyofibroblastoma · Magnetic resonance imaging · Histopathology

Introduction

Angiomyofibroblastoma (AMFB) is a rare, benign, mesenchymal tumor that occurs mainly in the female lower genital tract.1 Although several reports emphasized the distinct microscopic and immunohistochemical profile of AMFB, so far only four previous reports described the imaging features of this rare neoplasm.2–5 We report on a large posterior paravaginal AMFB that presented as a buttock mass and describe the magnetic resonance imaging (MRI) features of the neoplasm in our case. Our purpose is to add information to improve the diagnostic specificity of the disease.

Case

A 46-year-old woman was referred to our hospital with a 9-month history of asymmetry of her right buttock. Physical examination revealed a hard mass in the right buttock. Laboratory results were unremarkable. Pelvic MRI was performed with a 3.0-T system (Signa 3.0T; GE Healthcare, Milwaukee, WI, USA) utilizing axial T1-weighted fast spin echo sequences, T2-weighted fast spin echo with fat suppression sequences, and axial T1-weighted dynamic three-dimensional fat-saturated spoiled gradient-echo sequences before and after administration of a contrast agent. The coronal images were obtained during the late phase after dynamic scanning. MRI demonstrated a well-defined 80 × 50 × 150 mm mass posterolateral to the vagina and to the right of the rectum, displacing the vagina and rectum; it extended to the right pelvic side wall and posteroinferiorly to the skin of the right buttock (Figs. 1, 2). It did not infiltrate the muscles or invade the pelvic organs.

On T1-weighted images, the signal intensity of the mass was similar to that of skeletal muscle. The mass displayed hyperintensity, mild hyperintensity, and mild hypointensity in different areas of the tumor in relation to the surrounding muscular tissue on fat-suppressed T2-weighted images (Fig. 1). On fat-saturated dynamic gadolinium-enhanced MRI scans obtained 15, 55, 95, 135, and 185 s after administration of contrast material, the mass showed fast and persistent inhomogeneous
On gadolinium-enhanced delayed images, the mass displayed hypointensity and hyperintensity in the areas corresponding to those on T2-weighted images (Fig. 4).

At surgery, a 85 × 60 × 160 mm, well-defined lobulated mass was found in the posterior paravaginal region that extended laterally to the right pelvic side wall and posteriorly and inferiorly through the pelvic diaphragm to the right buttock approximately 5 mm below skin level. It was excised in its entirety. The tumor was well encapsulated and had a rubbery, elastic consistency.

Histological examination revealed typical features of AMFB. It was characterized by alternating hypercellular and hypocellular areas under screening power examination. The highly cellular areas were composed of plump, ovoid or spindle-shaped stromal cells around the proliferating thin-walled vessels (Fig. 5). Abundant collagen-