

A large desmoids-type fibromatosis in left deep buttock and thigh

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Abstract: Desmoid-type fibromatosis (DF) is a rare intermediately and locally aggressive tumor that occurs predominantly between puberty and 40 years, with female having higher incidence than male. This report describes a 48-year-old man with biopsy-proven DF in left intermuscular spatium of buttock and thigh. The mass had a wide longitudinal distribution from femoral neck level to popliteal fossa and measured about 40 cm. Plain CT showed a partially ill-defined mass with an irregular contour, with a density similar or slightly higher than skeletal muscle. On MR images, the tumor showed uneven signal in both T₁WI and T₂WI, mainly hyperintense to skeletal muscle and with stripe or patch-like markedly low signal. After contrast injection, the mass showed heterogeneous enhancement.

Key Words: Desmoid-type fibromatosis; buttock; computer tomography; magnetic resonance imaging



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A 48-year-old man had a history of left lower limb pain and radiated to dorsalis pedis for 5 years with the left buttock muscle progressively experiencing atrophy. The patient had difficulties in walking. Pelvic X-ray examination and lumbar intervertebral disc CT images showed no obvious abnormality. CT scan from hip to knee demonstrated a solid mass deep in muscular spatium adjacent to gluteus maximus and distributed along the sciatic nerve (*Figure 1*). The MPR coronal images showed the neoplasm was as long as 40 cm with an irregular or partially lobulated contour and locally ill-defined border (*Figure 2*). Sagittal CT demonstrated the density of tumor is similar or slightly higher than skeletal muscle (*Figure 3*). On MR images, the tumor showed uneven signals in both T₁W images and T₂W images, mainly hyperintense to skeletal muscle and with stripe or patch-like markedly low signal which represented dense collagen in histology (*Figure 4, 5, 6, 7*). After contrast injection, the mass showed moderate to severe heterogeneous enhancement (*Figure 5*). The partially resected mass was tough, lobulated and showed hemorrhage in macroscopic section (*Figure 6*). Microscopically, the tumor was composed of spindle cells and collagen bundles, with a variable amount of collagen

surrounding the spindle cells. Mitoses were present in the tumor cells but nuclear atypia was not seen (*Figure 7*).

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Figure 1 Axial CT shows the solid mass deep in muscular spatium adjacent to gluteus maximus and can not be separated from the sciatic nerve

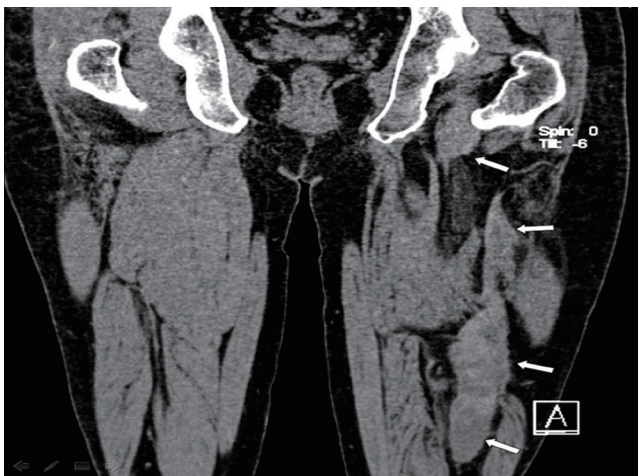


Figure 2 MPR coronal image shows the mass takes a wide longitudinal distribution with an irregular or partially lobulated contour and locally ill-defined border



Figure 3 Sagittal CT demonstrates the density of mass is equal or slightly higher than skeletal muscle

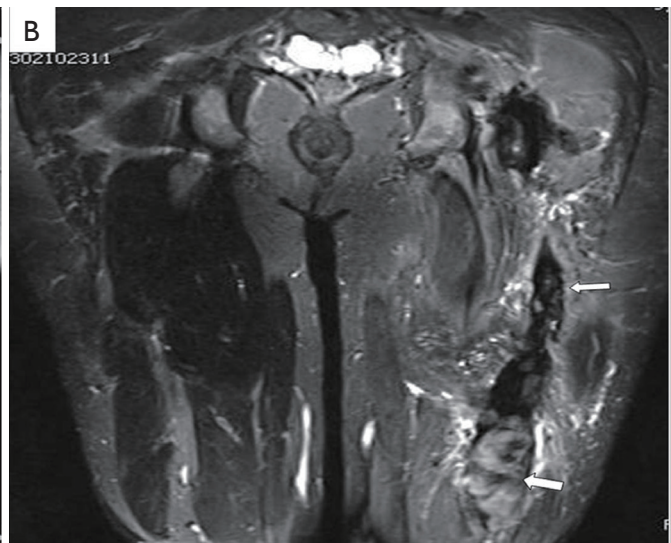


Figure 4 In both T_1W image (A) and T_2W image (B), the mass shows heterogeneous mixed hyperintense and hypointense signals, with stripe or patch-like markedly low signal



Figure 5 After contrast injection, the mass showed moderate to substantial heterogeneous enhancement

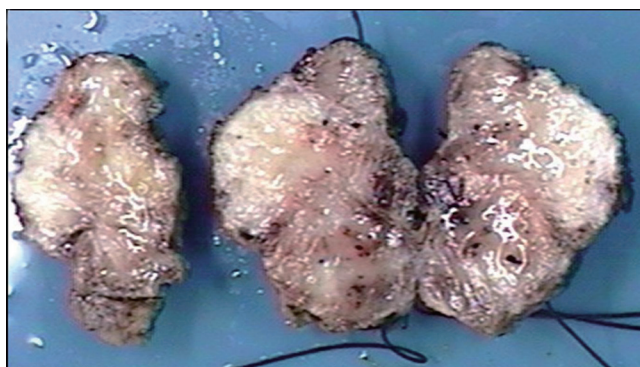


Figure 6 The partially resected mass is tough, lobulated, and parts of the area have hemorrhage

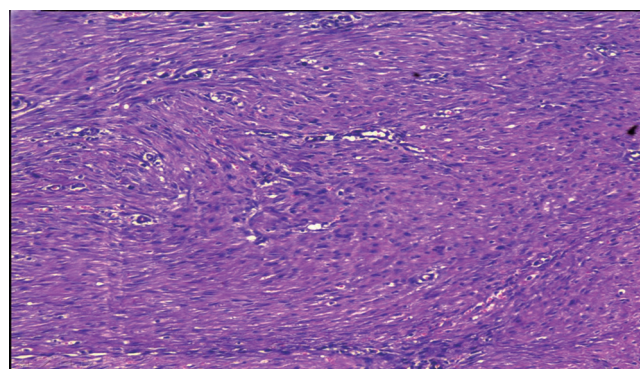


Figure 7 Microscopically, the tumor is composed of spindle cells and collagen bundles, with a variable amount of collagen surrounding the spindle cells. Mitoses are present in the tumor cells but nuclear atypia is not seen

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