Benign fibrous histocytoma of femur: a case report

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Abstract: Benign fibrous histocytoma (BFH) is a rare benign tumor, commonly occurs in soft tissues with very few cases in bone recorded. BFH of bone usually occurs in patients after the age of 20 years and often locates in the epiphysis or diaphysis of tubular bones, especially the femur and tibia. Herein we report a case of BFH of femur. The radiography and CT scan revealed a well-defined unilocular osteolytic lesion in the left proximal femur with marginal sclerosis. MRI showed that the lesion was isointense on T1WI, heterogeneous hyperintense on fat-saturated T2WI, with hypointense ring in circumference. Intralesional curettage was performed. At pathological examination, the tumor was consisted of spindle-shaped cells and scattered histocytic cells. The final diagnosis of BFH was established.

Key Words: Benign fibrous histocytoma; femur

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A 43-year-old man presented with dull pain of his left inguinal region for one month. His medical history and laboratory examination were unremarkable. Radiography revealed an oval unilocular radiolucent lesion in the left proximal femur with marginal sclerosis (*Figure 1*). CT scan and three-dimensional reconstruction of left hip joint demonstrated a slightly lobulated osteolytic lesion in the left femur, measured 2.6 cm × 2.6 cm × 4.5 cm, demarcated with an integrated sclerosis ring (*Figure 2A*). The lesion appeared homogeneous soft-tissue density similar to that of the skeletal muscle (*Figure 2B*). MRI showed that the lesion was isointense on T1WI (*Figure 3A*), heterogeneous hyperintense on both T2WI and fat-saturated T2WI, with hypointense ring in circumference on both T1WI and T2WI (*Figure 3B,C,D*). A bone cyst or BFH was suspected. The intrabony lesion was carefully and completely curetted by the orthopedic surgeon and the defect was thereafter filled with bone grafts. It was a yellowish-white solid mass on gross examination. Histologically, the mass was consisted of spindle-shaped cells arranged in a whorled or storiform pattern and scattered histiocytic cells were noted among the spindle cells (*Figure 4A,B*). From these findings, the final diagnosis of BFH was established.

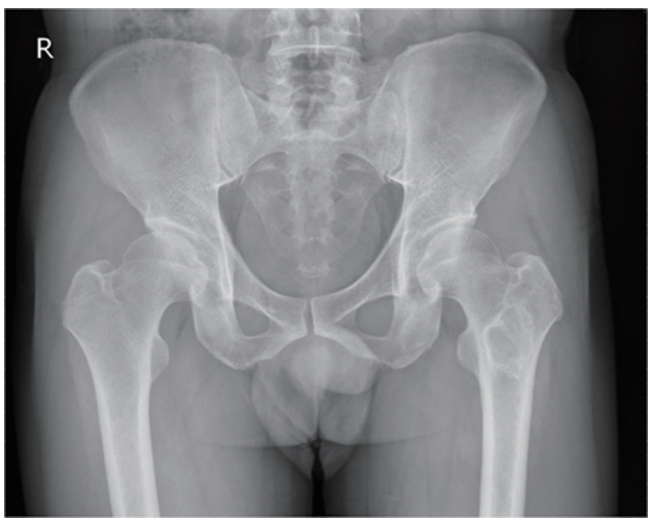

Figure 1 Radiography reveals a centric unilocular radiolucent lesion in the left proximal femur with a clear sclerotic rim

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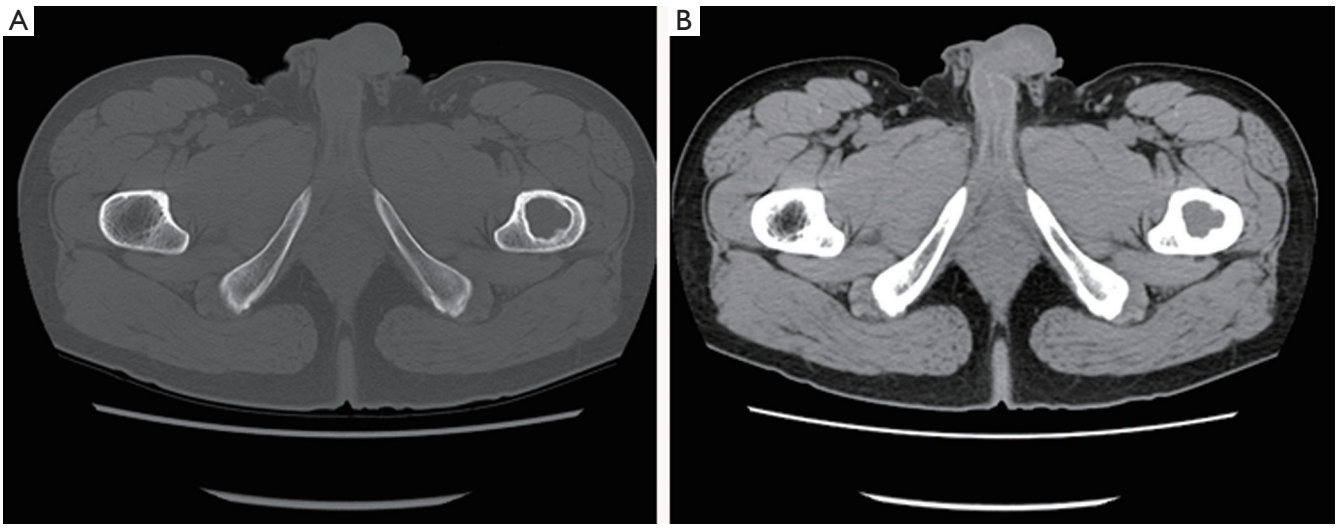

Figure 2 A. Axial CT scan(bone window) shows a well-defined osteolytic lesion in the left femur with a complete rim of sclerosis and without periosteal reaction or soft tissue mass; B. Axial CT scan(soft tissue window) demonstrates the lobulated mass with homogeneous soft-tissue density(41-46 HU)

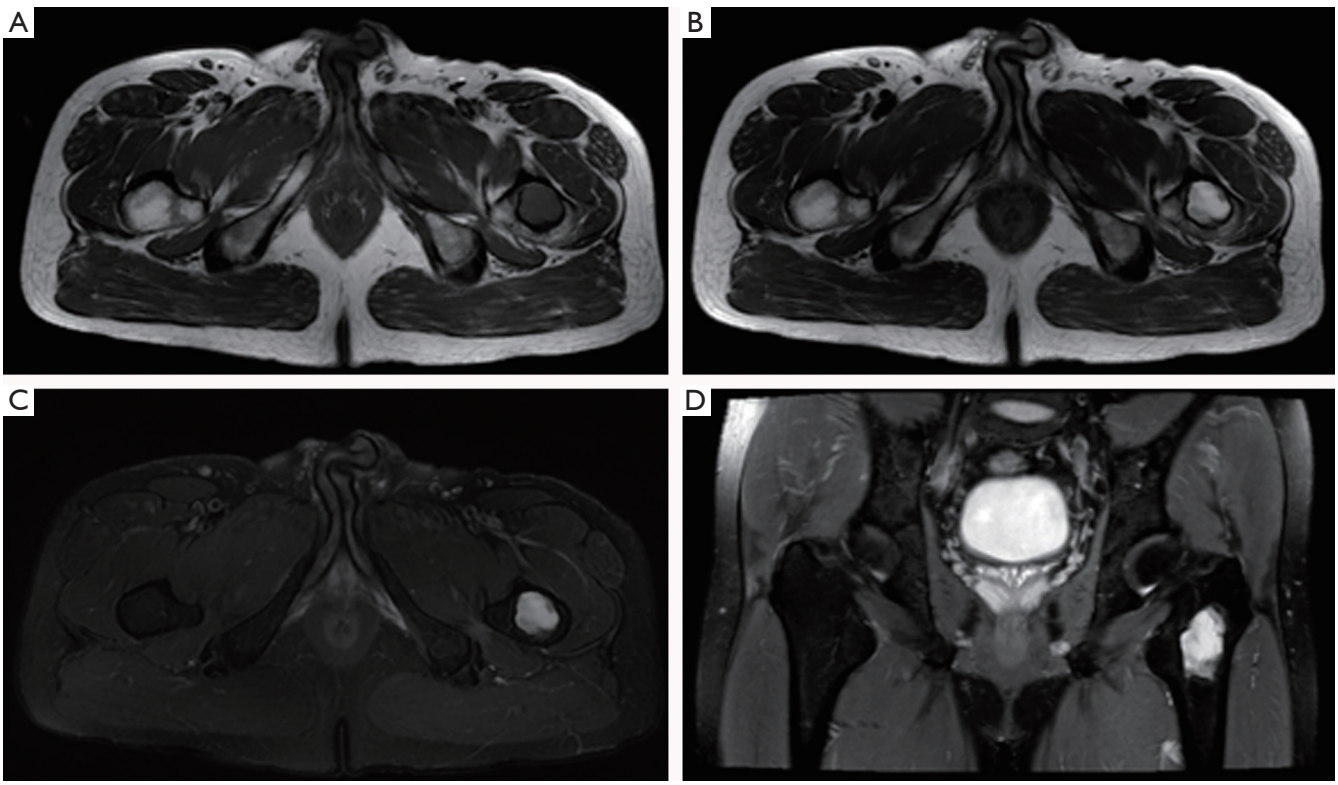

Figure 3 A. Axial T1 weighted MR image demonstrates the lesion was isointense with marginal hypointense ring; B. Axial T2 weighted image shows heterogeneous hyperintense inside the lesion; C. Axial fat-saturated T2 weighted image reveals no significant signal suppression of the mass. D. Coronal fat-saturated proton density weighted imaging shows a lobulated osteolytic lesion with heterogeneous hyperintense

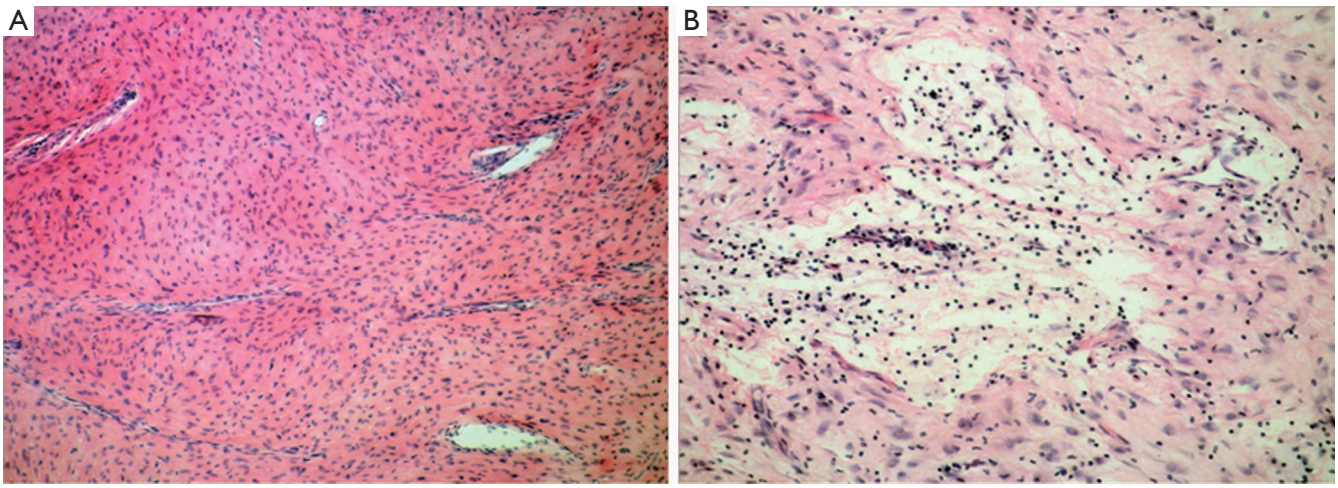

Figure 4 A. Photomicrograph reveals that the tumor is composed of uniform spindle-shaped cells arranged in a prominently whorled or storiform pattern with no apparent cytological atypia and rare mitotic changes (original magnification, ×100; hematoxylin-eosin stain); B. Clusters of foam cells with pale cytoplasm and small dark nuclei are seen interspersed among the spindle cells (original magnification, ×400; hematoxylin-eosin stain)

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