Aneurysmal Bone Cyst Arising from Iliac Bone Mimicking Liposarcoma

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Aneurysmal bone cysts (ABCs) are benign, non-neoplastic, expansile lesions. We present a case of a male patient aged 46 presented with 4-month history of left hip and low back pain and left hip swelling. Lumbosacral magnetic resonance imaging (MRI) and computed tomography (CT) demonstrated a large multi-loculated hemorrhagic lumbosacral and retroperitoneal mass with spinal dysraphism and tethered cord. Curettage and biopsy were performed with partially resected cystic wall which was histological confirmed with aneurismatic bone cyst. Large cystic mass of the vertebrae, sacrum, and pelvic bone must be considered with ABCs.

Key Words: Aneurysmal bone cyst • Liposarcoma

INTRODUCTION

Aneurysmal bone cysts (ABCs) are benign, non-neoplastic, expansile, vascular, locally destructive lesions. ABCs usually occur in the first 2 decades and exhibit a slight female preponderance. Most of patients present with pain and/or a mass. ABCs usually present in the long bones such as the humerus, femur, tibia, and fibula. Cottalorda et al reported on 156 patients. Among them, distribution of pelvis (9%), vertebrae and sacrum (15%) were observed. Radiologically, ABCs from pelvis demonstrated a fusiform expansile “blow-out” lesion and sometimes expansile, lobulated, lytic, multi-septated cystic lesion contains fluid level and this finding suggests of many disease entities such as ABCs, cavernous malformation, fibrous dysplasia, osteosarcoma, giant cell tumor. We present a case of iliac aneurysmal bone cysts mimicking malignant liposarcoma treated with curettage.

CASE REPORT

A 46-year-old male patient was admitted to our institution with left hip and low back pain and left hip swelling which had begun 4 months ago. The physical and neurological examination was normal.

Lumbosacral magnetic resonance imaging (MRI) demonstrated a large complicated lumbosacral and retroperitoneal mass with spinal dysraphism and tethered cord (Fig. 1). Computed tomography (CT) demonstrated multi-loculated hemorrhagic cyst with bone destruction of L5 vertebra and sacrum (Fig. 2). The radiologist diagnosed liposarcoma with these radiologic findings.

Excision and reconstruction was planned through the posterior approach. The cystic wall composed with thick fibrotic tissue, and aspiration was performed (Fig. 3). The fluid composed of thick, bloody materials. Total 180 ml of fluid

Fig. 1. (A), (B) Preoperative MRI scan showing a large complicated mass with spinal dysraphism and tethered cord in lumbosacral and retroperitoneal region.
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Fig. 3. Intraoperative photographs. The cystic wall was thick, fibrotic, and hemorrhagic. A. aspiration was performed and the fluid composed of thick, bloody materials. B. After aspiration, curettage and electro-cauterization were performed.

Fig. 4. Histological features. A. The cystic wall is composed of cavernous or slit-like hemorrhagic spaces surrounded by fibrotic septa containing spindle cells, inflammatory cells, and osteoclast cells that are distributed around the cystic spaces (HE). x400. B x400.

was aspirated. Curettage of inside cystic wall and biopsy were performed. Frozen biopsy revealed fibrous tissue with hemorrhagic clot and necrotic tissue, but no tumor cells were found. Another frozen biopsy was performed with cystic wall and which was histological confirmed with ABCs. Another resection and reconstruction procedures was not performed.

Under microscope, cystic wall composed a proliferation of fibroblasts and reactive bone, inflammatory cells, and multinucleated giant cells aligned along the bleed-filled lumen (Fig. 4).

The patient was discharged on the seventh postoperative day. He is currently symptom-free and no progression has been seen during the 21-months follow-up.

**DISCUSSION**

ABCs are rare benign bone tumors that remain a diagnostic and therapeutic challenge. Common methods of treatment for ABCs vary considerably in the literature. The main treatment option is surgery. Many patients undergo curettage and bone graft and/or cementation. Embolization has been used as an adjuvant treatment before surgery to reduce blood loss. Low-dose radiotherapy is used for patients with incompletely respectable, aggressive, and/or recurrent ABCs. Percutaneous embolization with an alcoholic solution of zein, demineralized bone particles are reported of induced healing of ABCs in recent literatures.

Capanna et al described three radiologic grades according to periosteal shell and bone limits. Inactive cysts have a complete periosteal shell with defined sclerotic bone limits (grade I). Active cysts have an incomplete periosteal shell and defined bone limits (grade II). Aggressive cysts have an indefinite margin (grade III). All the recurrences were observed in grade II and III groups, whereas there was no recurrence in grade I. In our case, complete periosteal shell and defined sclerotic bone limits (grade I) are observed according to Capanna et al.

The imaging studies, such as CT and MRI do not provide clearly diagnostic criteria for the diagnosis of ABCs. Large cystic mass with fluid-fluid levels of the vertebrae and sacrum, pelvic bone must be considered with many disease entities such as ABCs, osteoblastoma, osteosarcoma, simple bone cyst, giant cell tumor and liposarcoma.

In this case, treatment plan was established by radiologic impression as liposarcoma, but diagnosis was changed through surgery by frozen biopsy and surgical impression. Even if plain radiographs and MRI often support the diagnosis of ABCs, accurate histologic evaluation with correlation of radiographic and MRI findings are imperative for definitive diagnosis.

**REFERENCES**

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