Iliac aneurysmal bone cyst treated by cystoscopic controlled curettage

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Aneurysmal bone cysts are benign, non neoplastic, highly vascular bone lesions. The most effective treatment is complete surgical excision, but in many instances such an approach may produce a major functional impairment. We describe a patient with a giant aneurysmal bone cyst of the ilium, which was treated successfully by cystoscopic controlled curettage.
Case report

A 12 year old girl was admitted to the hospital after she felt some cracking in her right hip while doing sports. There was no history to suggest formerly trauma to the pelvis, occasionally she was complaining of aching in her right hip during the last three years.

The x-ray showed a giant osteolytic multiloculated cystic lesion of the right ilium, and an aneurysmal bone cyst was suspected (Fig. 1). A MR scan was carried out, the T2 weighted transversal images displayed an expansile fluid filled lesion with cortical expansion (Fig.2). The lesion had areas of both low and high signal intensity and fluid-fluid levels due to internal septations and different stages of chronic hemorrhage and layering of uncoagulated blood within the lesion. Radionuclide bone scan reveals a slight increased Tc 99 isotope uptake.

Figure 1: Giant osteolytic multiloculated cystic lesion of the right ilium
Figure 2: MR scan (T2 weighted, transversal images) displayed an expansile fluid filled lesion with cortical expansion

Several surgical procedures were discussed, including resection, embolisation and curettage. Finally, the lesion was curreted by a lateral transgluteal approach under cystoscopic control.

No bone graft was inserted. Postoperative course was uncomplicated. After 6 months, clinical and radiological control revealed a satisfactory result. Patient had no pain in her hip, radiographs demonstrated increasing consolidation. She subsequently returned to near normal activities.

At the latest follow up examination after 32 month, patient was disease free and clinically asymptomatic. Control radiographs demonstrated nearly complete intraosseous bone formation (Fig. 3). The patient had no pain in the hip, walked without aids, and returned to normal sport-activities.
Figure 3: Radiographs after 32 months demonstrated nearly complete intraosseous bone formation

Discussion

Aneurysmal bone cysts of the pelvis and sacrum are usually aggressive lesions associated with substantial bone destruction, pathological fractures, and local recurrence [7]. These lesions can be developed de novo, or may be associated with benign (e.g. chondroblastoma, osteoblastoma, giant cell tumor, or fibrous dysplasia) or malignant tumors (e.g. osteosarcoma, fibrosarcoma, or chondrosarcoma). Distinction from teleangiectatic osteosarcoma, is the most important diagnostic problem and may be difficult because these two conditions have overlapping clinical and radiological features.
The radiographic hallmarks of an aneurysmal bone cyst are multicystic eccentric expansion (blow out) of the bone, with a buttress or thin shell of periostal response. Although conventional radiographs usually are sufficient for evaluating of the lesion, computed tomography, and radionuclid bone scan can be of further assistance. MRI findings are rather characteristic and usually allow a more specific diagnosis. These include a well defined lesion, often with lobulated contours, cystic cavities with fluid levels, multiple internal septations and an intact rim of low intensity signal surrounding the lesion[4, 10].

Various methods of treatment have been described for the management of an aneurysmal bone cyst. The most effective treatment is complete surgical excision of the lesion, but in many instances such an approach may produce a major functional impairment. Most lesions generally are managed by curettage and bone grafting, In some cases, supportive injection of phenol and bone marrow were useful[1, 6]. Unfortunately, this type of treatment is associated with a recurrence rate up to 70%, and most of the cases recur within 6 months after operation[3,8]. Cryotherapy, transcatheter embolisation, percutaneous embolization, radionuclid ablation are other methods[2, 5, 6, 9]. However, the clinical value of such treatment has not been evaluated in larger studies.

We found that curettage of an aneurysmal bone cyst is an effective method of treatment, and should be considered as the method of choice, when complete surgical excision may produce a major functional impairment.
References


