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Case Reports and Series

Giant Cell Tumor of the Talus: 19-Year Follow-Up of a Patient

Kwang-Soon Song, MD, PhD [1], Chul Hyun Park, MD, PhD [2]

[1] Department of Orthopedic Surgery, Keimyung University Hospital, Daegu, Korea
[2] Department of Orthopedic Surgery, Yeungnam University Hospital, Daegu, Korea

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ABSTRACT

Giant cell tumor in small bones is a rare condition characterized by extensive bony destruction and a high recurrence rate. Intralesional excision with curettage and autologous bone grafting has been used as a standard treatment method for giant cell tumor of the bones. We report the case of a 30-year-old female with giant cell tumor of the talar body. She was followed up for 19 years after intralesional curettage and autologous bone grafting treatment.

Giant cell tumors (GCTs) are uncommon in the small bones of the hand, foot, and ankle (1–3), and very few such cases have been reported. More specifically, GCT of the talus is uncommon and has very rarely been reported (4,5). The standard treatment of GCT of the bone has traditionally been intralesional excision with curettage and autologous bone grafting. However, curettage alone has had a high recurrence rate. We report the case of a 30-year-old female with of GCT that had led to extensive destruction of the talus. Intralesional curettage and impact autologous bone grafting was performed, after which the pain and swelling decreased. In the 19 years of follow-up, we have found no evidence of relapse or changes in her symptoms.

Case Report

A 30-year-old female had presented with gradually increasing pain and motion limitation in the right ankle of several years' duration. She had no history of trauma to the ankle, fever, loss of appetite or weight, or similar complaints in other joints. The symptoms had gradually increased in intensity, leading to her presentation. The physical examination findings revealed restricted movements of the ankle joint, in particular, in dorsiflexion of the ankle.

The radiographs of the ankle revealed an osteolytic expansile lesion in the body of the talus, which had ballooned medially, and the cortex had thinned out. A round bony extrusion was noted on the dorsum of the talar neck. The ankle joint space was slightly narrowed (Fig. 1). She had no signs of infection clinically, and the serum biochemistry results were within normal limits. Magnetic resonance imaging revealed an expansile soft tissue mass in the body of the talus causing cortical thinning, which was demonstrated on a plain radiograph. The joint space of the ankle and subtalar joints was relatively well preserved (Fig. 2).

An open biopsy was performed, and a definite diagnosis of GCT was made (Fig. 3). The condition, prognosis, and various treatment modalities were discussed at length with the patient. The patient consented to, and underwent, intralesional curettage with autograft reconstruction by packing the cavity of the excised tumor with morselized iliac cortical and cancellous bone (Fig. 4). Involvement of the articular cartilage or evidence of a pathologic fracture was not observed intraoperatively. A protective cast was applied for a 3-month period, and the patient was subsequently mobilized to full weightbearing status. Regular follow-up examinations at 1-year intervals were performed. At 19 years postoperatively, the ankle joint space was preserved, and she had experienced no aggravation of symptoms during her activities of daily living compared with the symptom intensity at her initial visit. At the latest follow-up examination, we had found no evidence of recurrence (Fig. 5) of the GCT on radiographic inspection, despite some joint space irregulariy, and the patient's ankle clinically functioned well with 5° of dorsiflexion and 15° of plantarflexion.

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Address correspondence to: Chul Hyun Park, MD, PhD, Department of Orthopedic Surgery, Yeungnam University Hospital, Hyunchoongro 170, Daegu, Korea.
E-mail address: chpark77@naver.com (C.H. Park).

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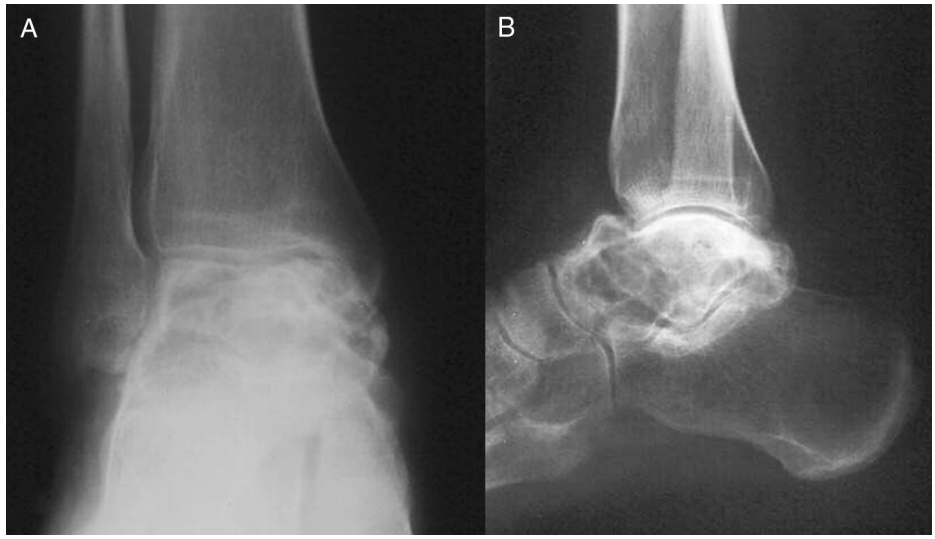

Fig. 1. (*A*) Anteroposterior and (*B*) lateral radiographs of our 30-year-old female patient showing an expansile osteolytic lesion in the body of the talus, which had ballooned medially, and the cortex had thinned out. A round bony extrusion was noted on the dorsum of the talar neck.

Discussion

GCT is most commonly seen in the distal femur, proximal tibia, distal radius, and proximal humerus, in descending order of frequency (6). GCT is uncommon in the small bones of the foot or ankle (1–3), and GCT of the talus has been an even less common (1,4,5,7,8). Kinley et al (9) reported 35 cases of GCT involving the tarsal bones, with the most common site being the talus. Among the bony tumors involving the talus, GCT was the most common (10).

The age of onset has been debated. Wold and Swee (4) stressed that, in contrast to GCT of the long bones, most GCTs of the small bones will occur in a young age group and will tend to be multicentric. However, Ramdas et al (7) reported that GCT of the talus has usually been seen in skeletally mature adults. Finally, osteoclastoma GCT of the talus is a rare entity and more commonly seen in the third decade of life (2).

GCT of the tarsal bones is uncommon, and the therapeutic options are ill defined (10). Traditionally, the standard treatment of GCT of the bone has been intralesional excision with curettage and autograft reconstruction by packing the cavity of the excised tumor with morselized iliac cortical and cancellous bone. Many investigators have reported satisfactory results with intralesional curettage and bone grafting (2). However, curettage alone has had a high rate of recurrence, and the use of adjuvant agents such as methyl methacrylate (bone cement), cryotherapy, and phenol have been reported. Several procedures, including fresh frozen osteochondral allografts (11), partial (3) or total excision (3,10) of the talus, and arthrodesis (3), have also been reported.

The classic treatment of choice has been intralesional curettage. Recently, the use of cementing and cryotherapy has been increasing, with encouraging results. Recurrence has been very common for this benign, but locally aggressive, neoplasm (2). Chemical treatments such as phenol or cytotoxic agents such as chlorpactin have been

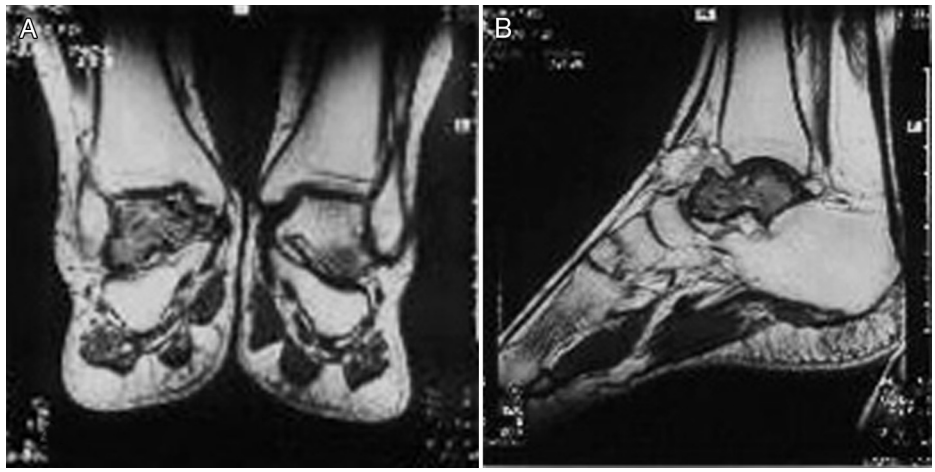

Fig. 2. Coronal (*A*) and sagittal (*B*) magnetic resonance images showing an expansile soft tissue mass in the body of the talus causing cortical thinning. The ankle and subtalar joint spaces were relatively well preserved.