

Giant Cell Tumor of Bone: casuistic of one single Institution in Brazil

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**BACKGROUND**

Cooper and Travers first described the Giant Cell Tumor (GCT) in 1818. This tumor has mesenchymal origin and relatively uncertain behavior. The tumor usually is only locally aggressive. However it can make distant metastasis in about 2 to 6% of the cases.

GCT represents 6% of all tumors. It affects mainly patients between 20 and 50 years of age, mainly in the epiphysis of long bones.

**PURPOSE**

The purpose of this study is reporting the experience of one single Brazilian Institution in diagnosis and treatment of Giant Cell Tumor of Bone.

**MATERIAL AND METHODS**

We retrospectively reviewed the medical records of patients registered in our service 1980 to 2012 with GCT diagnosis. We seek epidemiology information, surgical treatment, complications and oncological outcome. All alive patients were recruited to new assessment.

**RESULTS**

We found 64 patients enrolled in our service with a diagnosis of GCT and complete data records. In this group we found 28 males (43%) and 36 female (57%). The age ranged from 15 to 55 years old with a average of 32 years old. The main location was the distal femur with 16 cases (25%) followed by the proximal tibia with 14 cases (21%) and distal radius with 8 cases (12.5%). Forty-five patients have been undergone curettage treatment (70%). In this group 24.4% patients needed second surgery due local recurrence or complications.

The reconstructions was performed with acrylic cement (PMMA) in 31 patients (68%) associated with synthesis if as needed. Autologous bone graft was used on 8 patients to reconstruction after curettage (17%). In two patients was needed articular fusion after the tumor bone resection (10%).

Of the 19 patients who underwent resection, 3 have been reconstructed with tumor knee prosthesis. Some patients have been underwent only bone resection,

without reconstruction (fibulae – 4 cases). One patient have been underwent hemipelvectomy (without reconstruction) and four patients needed autologous bone graft after distal radio resection.

Local recurrence occurred in 6 patients (9.3%) and all were submitted to new resection. One patient had 3 episodes of relapse, this was also the only case in which pulmonary metastasis was observed (1.5%)

The main surgical complication was stiff joints, observed in 9.5% of cases, most commonly to handle the level followed by infection of the surgical site at 6%. The average follow-up was 136 months (6-2475).

## CONCLUSION

Our case series coincides with the epidemiological data literature localization age, recurrence and metastasis. Our service has predilection for articular preservation, even in Campanacci 3 tumors.

The complications are more related to primary localization of tumor than the surgical method employed. However in the long term we observed secondary osteoarthrosis disease in many patients.