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A Case of Giant Cell Tumor of the Fibula

Um Caso de Tumor de Células Gigantes do Perónio

João MARTINS GAMA✉[1,2], Rui CAETANO OLIVEIRA[3,4,5], José CASANOVA[4,5,6]
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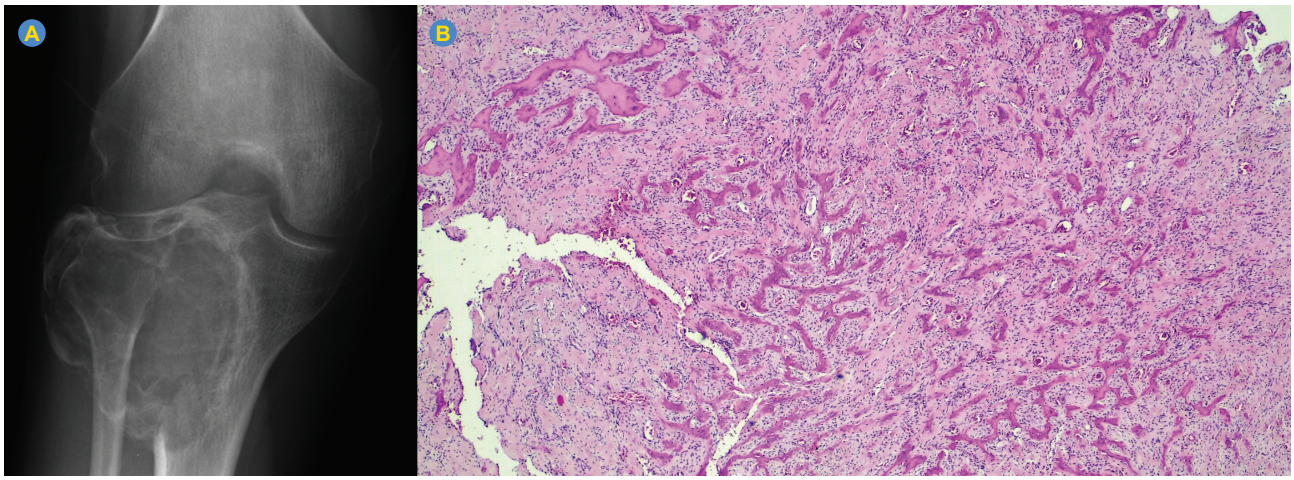

Figure 1 – (A) Giant cell tumour of the fibula. The X-ray, taken before treatment with denosumab, shows a lytic and trabeculated lesion in the epiphysis of the distal fibula. (B) Denosumab-treated giant cell tumor of the bone with the formation of woven bone, between the woven bone there is a proliferation of a fibrous tissue (hematoxilin-eosin 40x)

A 21-year-old male presented to the emergency department with right knee pain and swelling. A diagnosis of giant cell tumor of the bone (GCT) was made on magnetic resonance imaging. The patient started neoadjuvant treatment with denosumab, after which he underwent surgery.

The GCT is a locally aggressive neoplasm, representing 5% of primary bone tumors. It usually occurs between the ages of 20 and 45 and affects the epiphysis of long bones.[1] Radiologically, it is usually lytic, eccentric with trabeculation and has a multilobulated appearance (Fig. 1A).[2]

Denosumab is a human monoclonal antibody against the receptor activator of nuclear factor-κB-ligand that inhibits osteoclastic activity, thus reducing osteolysis, and osteoclast-like cell (OLC) activity (Fig. 1B).[3] The use of neoadjuvant denosumab helps convert an inoperable GCT to a tumor amenable to surgery.[4]

The histological changes induced by denosumab treatment include ossification, fibrosis, and marked decrease/disappearance of OLC. Recognizing these changes is important as they mimic benign fibro-osseous lesions or osteosarcoma.[4]

AUTHOR CONTRIBUTIONS

JMG: Study design, image collection and writing of the manuscript.

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JC: Image collection and critical review of the manuscript.

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1. Pathology Department. Hospitais da Universidade de Coimbra. Unidade Local de Saúde de Coimbra. Coimbra. Portugal.
2. Institute of Biomedical Sciences Abel Salazar (ICBAS-UP). Universidade do Porto. Porto. Portugal.
3. Biophysics Institute. Faculdade de Medicina. Universidade de Coimbra. Coimbra. Portugal.
4. Coimbra Institute for Clinical and Biomedical Research (iCBR). Faculdade de Medicina. Universidade de Coimbra. Coimbra. Portugal.
5. Center of Investigation in Environment, Genetics and Oncobiology (CIMAGO). Faculdade de Medicina. Universidade de Coimbra. Coimbra. Portugal.
6. Tumor Unit of the Locomotor Apparatus (UTAL). Orthopedics Department. Clínica Universitária de Ortopedia. Unidade Local de Saúde de Coimbra. Portugal.

✉ **Autor correspondente:** João Martins Gama. joaomartinsgama@gmail.com
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PROTECTION OF HUMANS AND ANIMALS

The authors declare that the procedures were followed according to the regulations established by the Clinical Research and Ethics Committee and to the Helsinki Declaration of the World Medical Association updated in 2013.

DATA CONFIDENTIALITY

The authors declare having followed the protocols in use at their working center regarding patients' data publication.

PATIENT CONSENT

Obtained.

COMPETING INTERESTS

The authors have declared that no competing interests exist.

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