



## Case report

# Parosteal aneurysmal bone cyst<sup>☆</sup>



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### ABSTRACT

The incidence of aneurysmal bone cysts is 0.14 cases per 100,000 individuals. Parosteal aneurysmal bone cysts are the least prevalent subtype and represent 7% of all aneurysmal bone cysts. We present the case of a 38-year-old male patient with pain and bulging in his right arm for eight months. He had previously been diagnosed as presenting giant-cell tumor, but his slides were reviewed and his condition was then diagnosed as parosteal aneurysmal bone cyst. The patient was treated with corticosteroid and calcitonin infiltration into the lesion and evolved with clinical and radiological improvement within the first five weeks after the operation.

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### Cisto ósseo aneurismático parosteal

#### RESUMO

O cisto ósseo aneurismático tem uma incidência de 0,14 a cada 100 mil indivíduos. O subtipo parosteal é o menos prevalente, representa 7% de todos. Apresentamos um paciente masculino, 38 anos, com dor e abaulamento em braço direito havia oito meses. Diagnosticado previamente como tumor de células gigantes, teve sua lâmina revisada e então foi feito o diagnóstico de cisto ósseo aneurismático parosteal. O paciente foi tratado com infiltração intralésional de corticosteroide e calcitonina e evoluiu com melhoria clínica e radiológica já nas primeiras cinco semanas pós-operatórias.

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#### Palavras-chave:

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## Introduction

Aneurysmal bone cysts were first described by Jaffe and Lichtenstein in 1942.<sup>1</sup> They account for 1–2% of all primary bone tumors and affect the metaphyseal region of long bones in children, adolescents and young adults.<sup>2,3</sup>

This lesion typically develops inside bones.<sup>4</sup> Cysts located in the cortical bone are rare and account for 7–9.3% of all aneurysmal bone cysts.<sup>5,6</sup>

Few cases have been reported in the literature. The approach used is individualized and varies according to the experience of each service. We present a case of parosteal aneurysmal bone cyst that was treated in accordance with our experience.

## Case report

The patient was a 38-year-old man of mixed race with a complaint of pain and bulging in his right arm. It was of progressive nature and the patient had had the complaint for at least eight months. He said that he had not suffered any trauma or undergone previous surgery.

The patient, who had been attended previously at another service, underwent a biopsy from which the histopathological diagnosis was compatible with a giant-cell tumor. When he arrived at our service, because of the clinical and radiological characteristics of the slides (Figs. 1–4), a review of them was requested.

This review showed the presence of a lesion formed by cyst membranes that sometimes showed complete septation constituted by fusiform and multinucleated giant cells. Bone trabeculae dissociated by connective tissue were noted, along with neoformed bone trabeculae of reactive pattern, which led to the diagnosis of parosteal aneurysmal bone cyst.

Infiltration into the lesion using calcitonin and corticosteroid was indicated after reaching a group decision. In the fifth postoperative week, the lesion was already seen to be undergoing an ossification process (Fig. 5).

## Discussion

Aneurysmal bone cysts were first described by Jaffe and Lichtenstein in 1942. According to the World Health Organization, they are characterized as benign cystic bone lesions composed of bone voids that are filled with blood and separated by septa of connective tissue containing fibroblasts, osteoclastic giant cells and reactive bone tissue.<sup>1–3,7</sup>

These cysts account for 1–2% of all primary bone tumors and their incidence is 0.14 per 100,000 individuals.<sup>8</sup> The lesions affect the metaphyseal region of the long bones of children, adolescents and young adults.<sup>2,3</sup>

The lesions generally develop inside bones and cause thinning of the cortex and possibly bone protrusion.<sup>4</sup> Localized cysts in the cortical bone are rare and were previously named subperiosteal giant cells or subperiosteal osteoclasts.<sup>4</sup> In 1950, Lichtenstein<sup>9</sup> published an article that elucidated and differentiated parosteal aneurysmal bone cysts from



Fig. 1 – Radiographs of the right humerus in anteroposterior and lateral view.

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