

## An Unusual Cause of Limping in Children

Cátia Vilas Boas Leitão<sup>1</sup>, Filipe Lima Santos<sup>2</sup>, Mafalda Santos<sup>3</sup>, Domingues Rodrigues<sup>3</sup>

Port J Pediatr 2020;51:272-3

DOI: <https://doi.org/10.25754/pjp.2020.18706>

An 8-year-old boy was referred to orthopedics clinic for pain in the left lower limb and intermittent limping with seven months of duration. The pain was predominantly nocturnal and responded partially to non-steroidal anti-inflammatory drugs. He had no other symptoms or relevant prior medical or family history.

Physical examination revealed muscular atrophy in the left quadriceps, pain with the mobilization and limitation of abduction of the left hip (of approximately 20° compared with the contralateral limb). No other alterations were present. An anteroposterior pelvic radiography showed a radiolucent lesion in the woven bone of the left femoral neck (Fig. 1), that appeared to be close to the anterior femoral cortex on the lateral view (Fig. 2). A computed tomography (CT) revealed a dense radiolucent (calcified) central nidus surrounded by reactive bone sclerosis and cortical thickening (Figs. 3 and 4). The image was highly characteristic of an osteoid osteoma. The child underwent a percutaneous biopsy followed by CT-guided radiofrequency ablation and had a complete resolution of the symptoms.

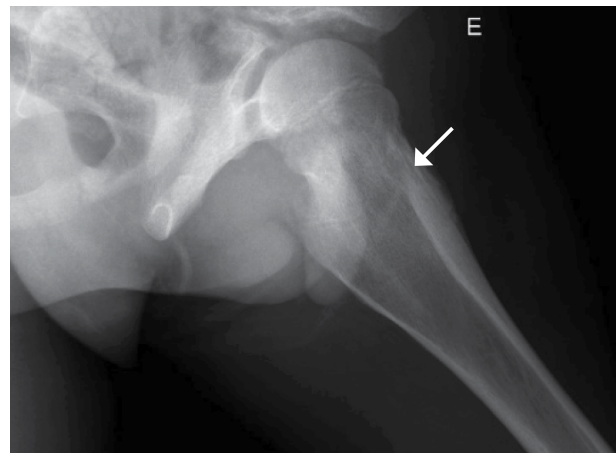
Osteoid osteoma, the third most common benign bone tumor, occurs predominantly in males and typically

before the age of 30. The proximal femur and tibia are the most affected sites. The clinical presentation with intense pain, which becomes worse during the night and responds to treatment with salicylates or non-steroidal anti-inflammatory drugs, is highly characteristic. The image of the lesion is also very typical: a rounded lesion with a dense, radiolucent central nidus and a sclerotic halo.<sup>1-3</sup> Computed tomography is useful not only for diagnosis and characterization of small lesions, but also to guide the treatment.<sup>1,2,4</sup> Computed tomography guided percutaneous radiofrequency ablation has replaced open surgery as the first line of treatment. Its technical success and efficacy rates have been recorded to be as high as 100% and 98%, respectively, with a small complication rate of 6%.<sup>4</sup>

Gait alterations associated with pain and limited mobility of the hip are a very common complaint in both the outpatient and emergency settings. The etiologic diagnosis can be challenging.<sup>5</sup> Osteoid osteoma is a rare cause of limping, but all clinicians should be aware of this clinical entity, as its increased recognition will allow for early diagnosis and treatment.<sup>1-3,5</sup>



**Figure 1.** Anteroposterior view of the pelvis, with a radiolucent lesion in the left femoral neck.



**Figure 2.** Lateral view of the left hip, with a radiolucent lesion in the left femoral neck.

1. Pediatrics Department, Centro Hospitalar de Vila Nova de Gaia/Espinho, Vila Nova de Gaia, Portugal

2. Orthopedics Department, Centro Hospitalar Vila Nova de Gaia/Espinho, Vila Nova de Gaia, Portugal

3. Orthopedics Department, Pediatric Orthopedics Unit, Centro Hospitalar Vila Nova de Gaia/Espinho, Vila Nova de Gaia, Portugal

#### Corresponding Author

Cátia Leitão

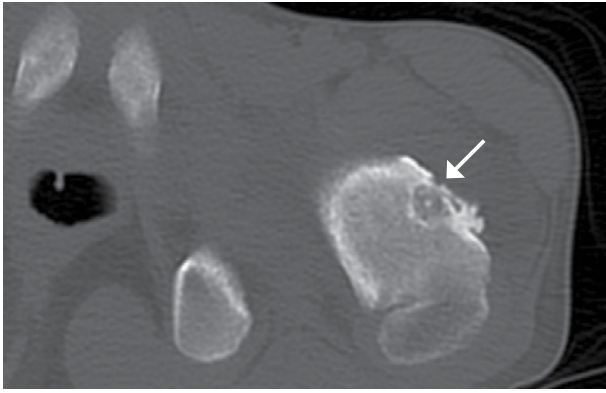
<https://orcid.org/0000-0003-1470-3148>

catiavl@gmail.com

Rua Conceição Fernandes S/N, 4434-502 Vila Nova de Gaia

Received: 16/10/2019 | Accepted: 11/03/2020 | Published: 02/10/2020

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**Figure 3.** Axial CT image of the lesion, with a dense central nidus with surrounding lucency, enveloped by a sclerotic bone reaction (CT cut thickness of 3 mm).



**Figure 4.** Coronal CT image of the lesion (CT cut thickness of 3 mm).

**Keywords:** Child; Gait; Osteoma, Osteoid/diagnostic imaging; Osteoma, Osteoid/therapy

**WHAT THIS REPORT ADDS**

- A long list of different diagnosis needs to be considered when a child presents with hip pain and limping.
- An intense pain that worsens during the night and responds to treatment with salicylates or non-steroidal anti-inflammatory drugs are highly typical of osteoid osteoma.
- Osteoid osteoma is a rare cause of limping, but its characteristic clinical presentation and image findings should alert the assisting clinician to the diagnosis.

**Conflicts of Interest**

The authors declare that there were no conflicts of interest in conducting this work.

**Funding Sources**

There were no external funding sources for the realization of this paper.

**Provenance and peer review**

Not commissioned; externally peer reviewed.

**Consent for publication**

Consent for publication was obtained.

**Confidentiality of data**

The authors declare that they have followed the protocols of their work centre on the publication of patient data.

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