Atypical location and appearance of chondromyxoid of the right iliac wing fibroma in a child

ABSTRACT

Aims: The chondromyxoid tumor is a benign primary bone tumor of cartilaginous differentiation whose location is atypical and rarely described in the literature.

Case report : A 10 year old child, who consulted the emergency room of the children's hospital of Rabat for a hard and painful swelling of the right iliac fossa, rapidly increasing in volume. Biological tests were normal. The radiography showed a mixed lytic and condensing lesion, heterogeneous, of the right iliac wing, prompting an magnetic resonance imaging (MRI)

Discussion : Chondromyxoid fibroma usually affects young subjects and manifests clinically as pain and swelling. Pathological fractures are common.
On standard radiography, in long bones, there is an eccentric geographic gap, blowing out the cortex. On flat bones such as the iliac bone, the tumor is often polycyclic and mixed, combining condensation and bone lysis. Intratumoral microcalcifications may be encountered.
MRI is the key examination to evoke the diagnosis of chondromyxoid fibroma

Conclusion: Imaging and in particular MRI plays multiple and fundamental roles in the management of chondromyxoid fibroma. MRI provides diagnostic guidance, particularly in the case of atypical localization.

Keywords: chondromyxoid fibroma, child,

1. INTRODUCTION

Chondromyxoid tumor is a rare benign bone tumor, presenting 0.5% of primary bone tumors. It usually involves the metaphyses of long bones.

The objective of our article is to illustrate an aggressive form of this tumor, of atypical location in a child, by underlining the preponderant role of magnetic resonance imaging (MRI) in its management

2. PRESENTATION OF THE CASE

A 10 year old child, who consulted the emergency room of the children's hospital of Rabat for a hard and painful swelling of the right iliac fossa, rapidly increasing in volume. Biological tests were normal. The radiography showed a mixed lytic and condensing lesion, heterogeneous, of the right iliac wing, prompting an MRI.
The MRI showed a lesion process centered on the right iliac wing (figure 1), multi-loculated, hyposignal T1, hypersignal T2 heterogeneous, containing multiple thick septa in hyposignal T2 enhanced by Gadolinium, without diffusion restriction. There is a compact reaction opposite, without invasion of adjacent structures. There was no fatty infiltration or associated adenopathies.
The process was in favor of a benign origin rather than a chondrosarcoma. Chondromyxoid fibroma was among the diagnoses evoked, and was histologically confirmed after biopsy of the tumor.
Surgical excision was indicated.
Tumor recurrence was objectified by a follow-up MRI performed after 5 months. It is noted that the recurrence was larger than the primary tumor (Figure 1 d).

3. DISCUSSION

Chondromyxoid fibroma usually affects young subjects and manifests clinically as pain and swelling. Pathological fractures are common [1,5].
On standard radiography, in long bones, there is an eccentric geographic gap, blowing out the cortex. On flat bones such as the iliac bone, the tumor is often polycyclic and mixed, combining condensation and bone lysis. Intratumoral microcalcifications may be encountered [2,10].
magnetic resonance imaging (MRI) is the key examination to evoke the diagnosis of chondromyxoid fibroma. The myxoid component appears hyposignal on the T1-weighted sequence, hypersignal on the T2-weighted sequence, and enhanced by Gadolinium. MRI can also detect other associated intratumoral components: fibrous, cystic and calcific [3,4,6,7].
Chondromyxoid fibroma is characterized by the absence of intramedullary extension, which makes it possible to differentiate its aggressive form from a chondrosarcoma, the latter being the main differential diagnosis. Hence the interest of a meticulous analysis of the tumor's relationship in MRI.
Histological confirmation by biopsy is always indicated [3,4,8,9].
Treatment consists of complete excision of the tumor with curettage and bone filling. It should be noted that total resection is not always possible, hence the frequency of recurrence, which reaches 25% of cases. Malignant tumor transformation is exceptional [1,2,11].

4. CONCLUSION

Imaging and in particular MRI plays multiple and fundamental roles in the management of chondromyxoid fibroma. MRI provides diagnostic guidance, particularly in the case of atypical localization, a precise study of tumor relationships to guide surgical treatment, and the search for postoperative recurrence.

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COMPETING INTERESTS

Authors declare that no competing interests exist

AUTHORS' CONTRIBUTIONS

Hicham Ziani, Ayoub Ettaj, Yassine Regragui and Nabil Elachhab wrote the first draft of the manuscript.
Aziza Bentalha, Alae koraichi, Selma Elkettani managed the analyses of the study. All authors read and approved the final manuscript

CONSENT

All authors declare that written informed consent was obtained from the patient (for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editorial office/Chief Editor/Editorial Board members of this journal.

ETHICAL APPROVAL

All authors hereby declare that all experiments have been examined and approved by the appropriate ethics committee and have therefore been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki

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FIGURES

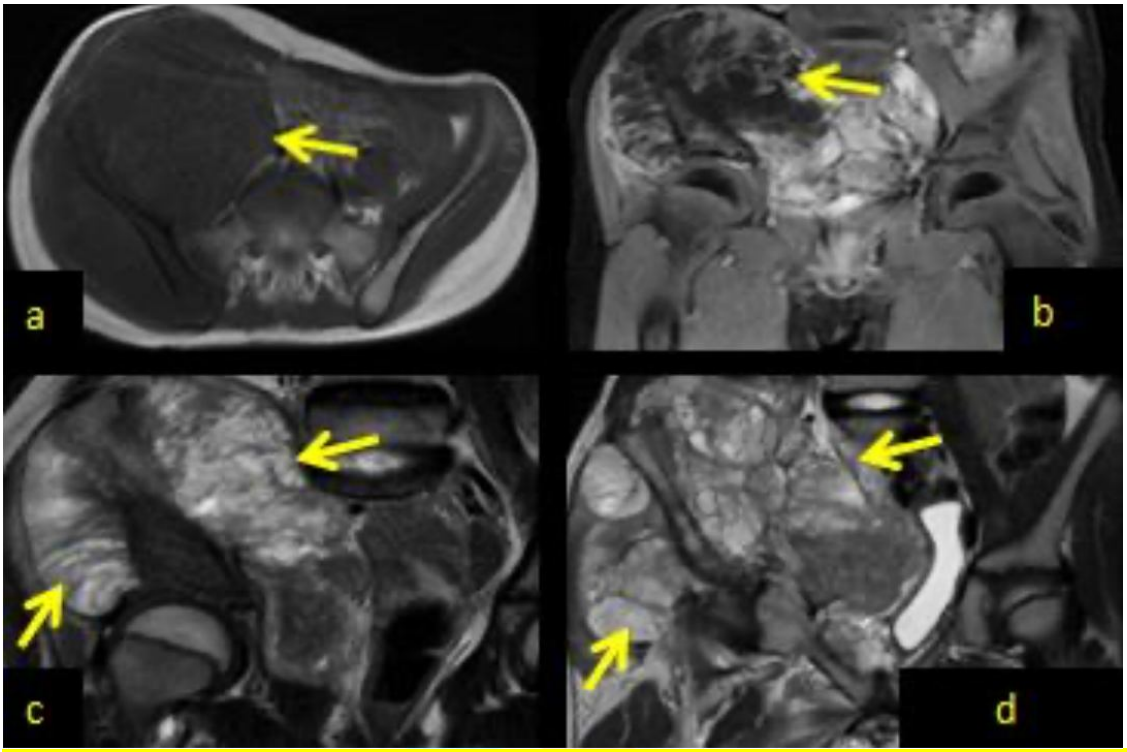

Figure 1: Pelvic MRI in axial T1-weighted sequence without (a) and after (b) gadolinium injection, and in sagittal section T2-weighted sequence before (c) and 5 months after surgical resection (d). The images show a tumor process centered on the right iliac wing, multi-localized, in hyposignal T1 (a), enhanced by Gadolinium (b). The tumor shows a heterogeneous T2 hyersignal, with multiple thick septa in T2 hyposignal (c). There is a compact periosteal reaction opposite, without invasion of adjacent organs.