

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

ScienceDirect

journal homepage: [www.elsevier.com/locate/radcr](http://www.elsevier.com/locate/radcr)

## Case Report

# Diffuse periostitis as the primary presenting radiological finding in an AML patient with disease relapse

Raza Mushtaq, MD<sup>a,\*</sup>, David Nolte, MD<sup>b</sup>, Faryal Shareef, BS<sup>c</sup>, Mihra S Taljanovic, MD, PhD<sup>a</sup>

<sup>a</sup>Department of Medical Imaging, College of Medicine, Banner – University Medical Center, University of Arizona, 1501 N. Campbell Ave., P.O. Box 245067, Tucson, AZ 85724, USA

<sup>b</sup>Department of Pathology, College of Medicine, Banner – University Medical Center, University of Arizona, 1501 N. Campbell Ave., P.O. Box 245043, Tucson, AZ 85724, USA

<sup>c</sup>College of Medicine, University of Arizona, 1501 N. Campbell Ave., P.O. Box 245017, Tucson, AZ 85724, USA

## ARTICLE INFO

## Article history:

Received 28 May 2018

Revised 27 June 2018

Accepted 8 July 2018

## Keywords:

Acute myelogenous leukemia

Relapse

Periostitis

Magnetic resonance imaging

MR imaging

Bone scan

## ABSTRACT

Acute myelogenous leukemia is a hematologic malignancy defined by the presence of myeloid blasts causing bone marrow infiltration. Evaluation and workup of acute myelogenous leukemia is based on comprehensive medical history, physical examination, laboratory evaluation, and bone marrow sampling. Magnetic resonance (MR) imaging is the study of choice in the evaluation of this disease including the initial evaluation, treatment follow-up, and complications. Herein, we report a case of relapse of the acute myelogenous leukemia in an adult patient who presented with diffuse periostitis in his lower extremities diagnosed on MR imaging and confirmed on Technetium bone scan, which also showed periostitis along the bilateral humeri. To our knowledge, this was not previously reported in the English literature.

© 2018 The Authors. Published by Elsevier Inc. on behalf of University of Washington.

This is an open access article under the CC BY-NC-ND license.

(<http://creativecommons.org/licenses/by-nc-nd/4.0/>)

## Introduction

Acute myelogenous leukemia (AML) is a heterogeneous hematologic malignancy defined by the presence of myeloid blasts in the peripheral blood, bone marrow, or other tissues [1]. It is the most frequent leukemia in adults with an incidence of 3.7 per 100,000 persons. AML is a fatal disease with patients ultimately dying of bone marrow failure-related complications [2]. Clinical presentation of AML reflects the under-

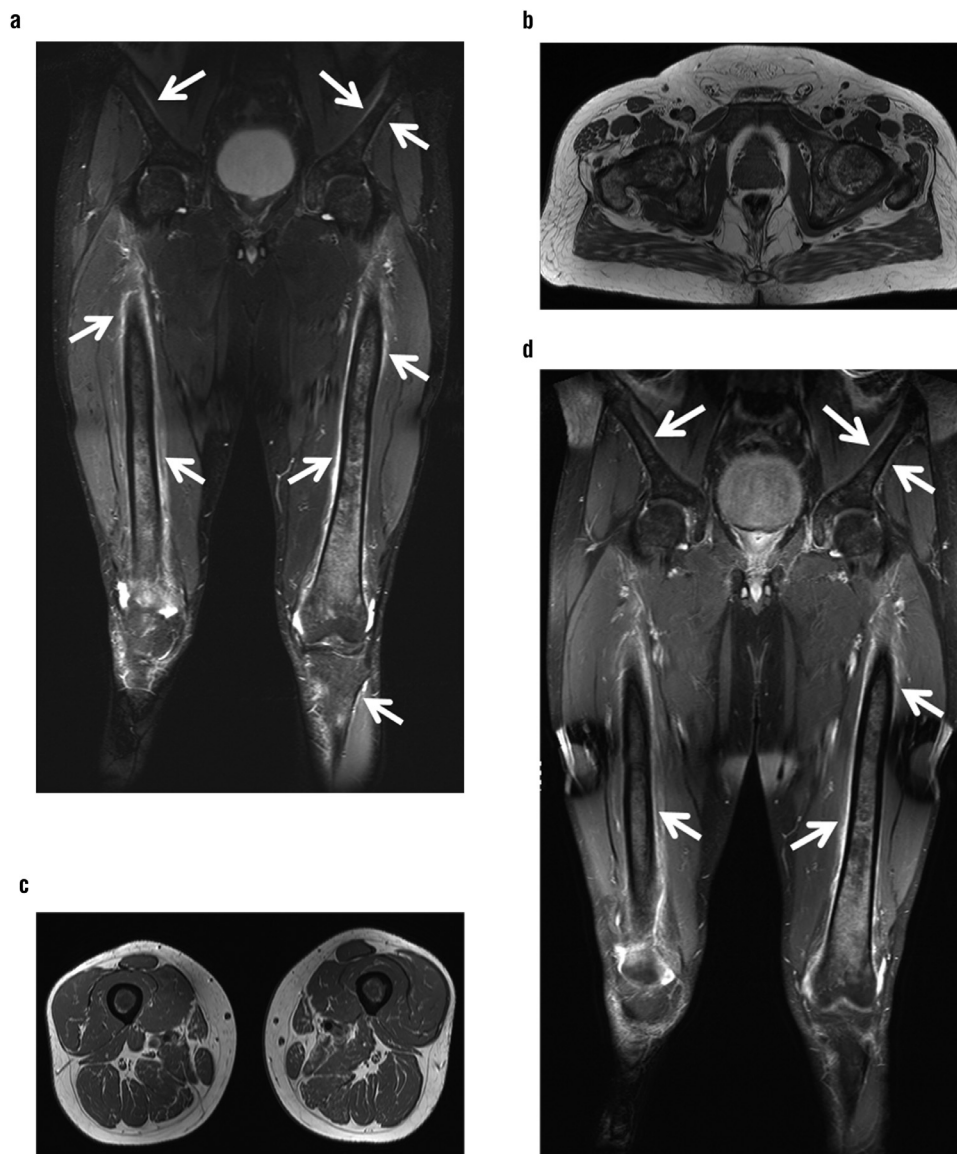
lying process of leukemic bone marrow infiltration resulting in neutropenia, anemia, and thrombocytopenia. Children typically present with fever, fatigue, pallor, infections, and bleeding [3]. Adult patients may present with anemia and fatigue, decreased energy level lasting several weeks, dyspnea on exertion, and dizziness. Older patients with coronary artery disease may present with anginal chest pain and the myocardial infarction may be their first presenting symptom [4,5]. Evaluation and workup is based on comprehensive medical history, physical examination, laboratory evaluation, and bone marrow analysis [1].

\* Corresponding author.

E-mail address: [rmushtaq@radiology.arizona.edu](mailto:rmushtaq@radiology.arizona.edu) (R. Mushtaq).

<https://doi.org/10.1016/j.radcr.2018.07.012>

1930-0433/© 2018 The Authors. Published by Elsevier Inc. on behalf of University of Washington. This is an open access article under the CC BY-NC-ND license. (<http://creativecommons.org/licenses/by-nc-nd/4.0/>)



**Fig. 1 – Marrow infiltrative process and diffuse periostitis on MR imaging. (A)** Coronal STIR MR image of the pelvis and bilateral femora shows diffusely heterogeneous appearance of the bone marrow with patchy increased signal intensity, which is most pronounced in the bilateral femora. Note diffuse high signal intensity periostitis about the pelvis and bilateral femora (white arrows). **(B)** Axial T1-weighted MR images of the hips **(C)** and bilateral femora **(C)** demonstrate patchy areas of low-signal intensity consistent with bone marrow replacement in keeping with marrow infiltrative process. **(D)** Coronal gadolinium-enhanced T1-weighted fat-saturated MR image of the pelvis and bilateral femora demonstrates extensive periosteal enhancement (white arrows) consistent with periostitis.

Role of imaging in AML workup and follow-up is limited. As per National Comprehensive Cancer Network, imaging is recommended in presence of focal symptoms such as neurologic deficits requiring head computed tomography (CT) or brain MR imaging. Nuclear imaging in the form of PET/CT can be utilized in cases with suspected extramedullary disease [1]. Whole-body MR imaging has also been studied in children with AML for assessment of extramedullary disease, particularly chloromas [6]. Additionally, MRI is performed for suspected various coexisting and/or unrelated posttraumatic, inflammatory or infectious conditions, if clinically indicated.

Imaging, particularly MR imaging, can be helpful in patients undergoing therapy in differentiating the treatment changes and disease complications. We present a case of diffuse periostitis as the primary presenting radiological finding in an AML patient with disease relapse.

### Case report

A 45-year-old male was diagnosed with AML with initial flow cytometry showing 45% myeloid blasts with inversion of

Download English Version:

<https://daneshyari.com/en/article/8824954>

Download Persian Version:

<https://daneshyari.com/article/8824954>

[Daneshyari.com](https://daneshyari.com)