

# Disabling iatrogenic disorder

Mark Hughes, Bhathiya Wijeyekoon

Department of Rheumatology,  
East and North Hertfordshire  
NHS Trust, Stevenage, UK

Correspondence to  
Dr Bhathiya Wijeyekoon,  
j.wijeyekoon@nhs.net

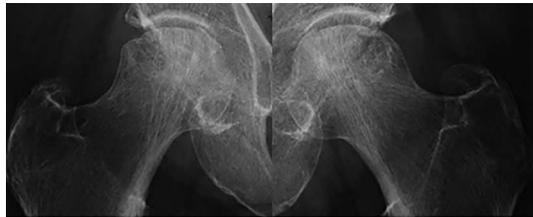
Accepted 2 June 2016

## DESCRIPTION

A 74-year-old woman presented with a 9-month history of progressive groin and shoulder pain. She was prescribed a course of prednisolone by her general practitioner, for suspected polymyalgia rheumatica (PMR), with little benefit; C reactive protein (CRP) was 7 prior to starting steroids. The pain had become so severe that the patient was a wheelchair user when she attended the rheuma-



**Figure 1** X-rays of both shoulders demonstrating fragmentation and collapse of the humeral heads.



**Figure 2** X-rays of both hips with subtle evidence of femoral head collapse bilaterally.

tology clinic. She had a medical history of a meningioma excision, performed 18 months previously, which was followed by a prolonged course of high-dose steroids; she also had a history of treated hypothyroidism.

Examination revealed a markedly restricted, and painful, range of hip and shoulder joint movement. Shoulder X-rays revealed deformities of the humeral heads (**figure 1**); pelvic X-ray was reported to show degenerative changes of the hips (**figure 2**). Blood tests demonstrated normal erythrocyte sedimentation rate, CRP, thyroid function tests and total protein; serum electrophoresis and urine Bence-Jones proteins were also negative. Neither PMR nor minor degenerative arthritis was felt to be sufficient to account for the patient's severe symptoms. The history of high-dose steroid use and humeral 'deformity' on X-ray prompted a diagnosis of avascular necrosis (AVN) to be considered.

Subsequent imaging, including MRI of the right hip (**figure 3**), confirmed the diagnosis of bilateral shoulder and hip AVN. In retrospect, collapse of the humeral heads is evident on X-ray (**figure 1**) and similar, but more subtle, changes are also evident on hip X-ray (**figure 2**).

Avascular necrosis of large joints is a relatively rare condition with an incidence in England of 1.4–3 cases per 100 000 people.<sup>1</sup> Of these cases, ~3% are thought to be multifocal,<sup>2</sup> involving three or more joints. Corticosteroids are the second most common cause of AVN, after trauma,<sup>3</sup> but account for 90% of multifocal AVN cases.<sup>2</sup>



**Figure 3** X-ray and short T1 inversion recovery MRI of right hip clearly demonstrating collapse of the femoral head, as well as oedema.



To cite: Hughes M, Wijeyekoon B. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2016-214807

## Learning points

- ▶ Avascular necrosis (AVN) can cause an oligoarthropathy.
- ▶ Multifocal AVN should be considered as part of the differential diagnosis in patients presenting with severe large joint pain.
- ▶ X-ray features can be subtle in early AVN, and MRI or CT scanning should be considered in suspected cases.

**Contributors** MH wrote the article, and BW reviewed and edited it.

**Competing interests** None declared.

**Patient consent** Obtained.

**Provenance and peer review** Not commissioned; externally peer reviewed.

## REFERENCES

- 1 Jacobs B. Epidemiology of traumatic and nontraumatic osteonecrosis. *Clin Orthop* 1998;130:51–67.
- 2 Symptomatic multifocal osteonecrosis. A multicenter study. Collaborative Osteonecrosis Group. *Clin Orthop Relat Res* 1999;312–26.
- 3 Assouline-Dayana Y, Chang C, Greenspan A, *et al*. Pathogenesis and natural history of osteonecrosis. *Semin Arthritis Rheum* 2002;32:94–124.

Copyright 2016 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit <http://group.bmj.com/group/rights-licensing/permissions>.  
BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- ▶ Submit as many cases as you like
- ▶ Enjoy fast sympathetic peer review and rapid publication of accepted articles
- ▶ Access all the published articles
- ▶ Re-use any of the published material for personal use and teaching without further permission

For information on Institutional Fellowships contact [consortiasales@bmjgroup.com](mailto:consortiasales@bmjgroup.com)

Visit [casereports.bmj.com](http://casereports.bmj.com) for more articles like this and to become a Fellow