

## Case report

## A case of rapidly destructive osteoarthritis of the hip with onset of less than six weeks

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## ABSTRACT

**Introduction:** Rapidly destructive osteoarthritis is characterized by a severe destruction of the hip joint developing over short periods of time. However, to date, there is no agreement on the biological process that triggers this condition. The aim of this report is to present a case of rapidly destructive osteoarthritis. **Case report:** We report a case of a 76 year-old female who presented with hip pain of sudden onset and normal X-rays. Six weeks later she presented with increased pain intensity, functional limitation and evidence of a collapse of the femoral head in the X-rays.

**Discussion:** Rapidly destructive osteoarthritis of the hip is a complex entity that might be more frequent than previously described and which clinical course could vary between few weeks and several months. In order to make an accurate diagnosis, other causes of massive destruction of the joint should be excluded.

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## 1. Introduction

Rapidly destructive osteoarthritis (RDOA) is an unusual manifestation of osteoarthritis of the hip.<sup>1</sup> It is more common in elderly female patients and is characterized by pain and functional limitation of the hip, accompanied by an extremely rapid destruction of the joint progressing over only a few months and is not attributed to traumatic, infectious, tumorous, ischemic, neuropathic or inflammatory causes.<sup>1,2</sup> This pathology typically develops over a period of 2–16 months from the onset of symptoms according to current studies.<sup>1,3</sup> Herein we present a case of RDOA of the hip that developed over a period of less than 6 weeks.

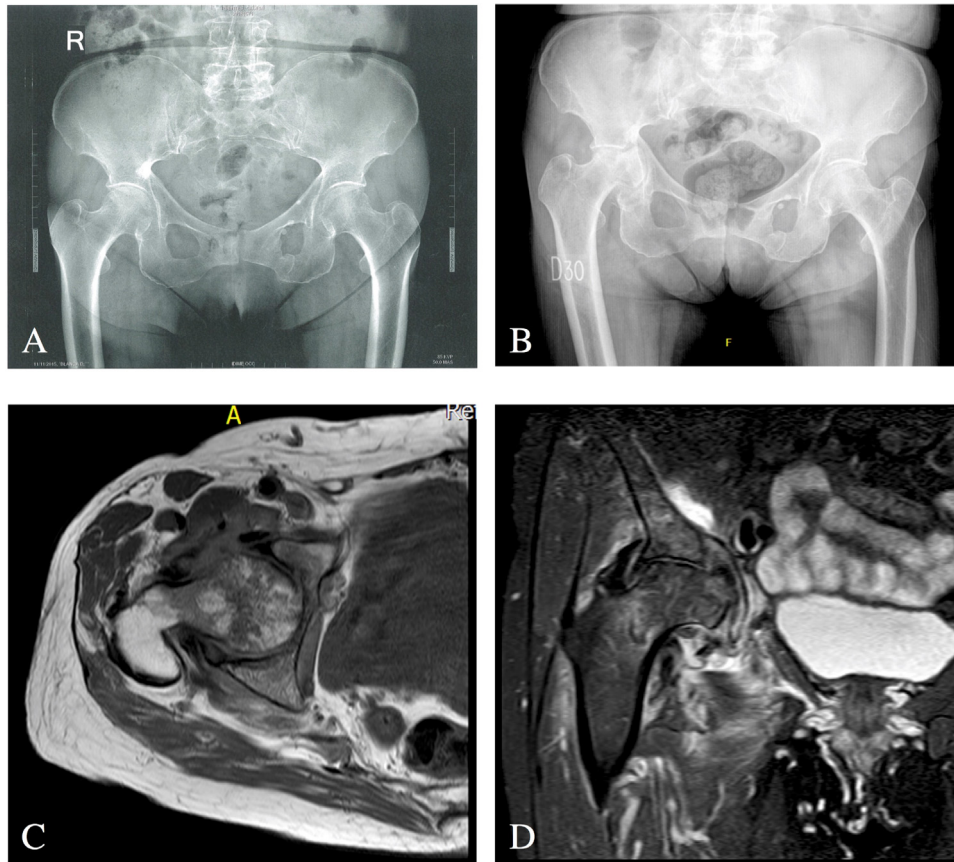
## 2. Case report

A 76 year-old female with a history of diabetes mellitus, is admitted into the emergency room with rapidly progressive pain of the right hip. X-rays of the pelvis showed bilateral narrowing of the joint space with no signs of acute trauma (Fig. 1A). The patient was

discharged and symptoms were treated with non-steroidal anti-inflammatory drugs. Four weeks later, she presented severe pain in the same joint and progressive functional impairment characterized by decreased range of motion, right lower limb shortening and the need for walking aids. X-rays of the hip obtained six weeks after the initial complain, evidenced a collapse of the femoral head in its superolateral aspect, protrusio acetabuli and minimal proliferative changes (Fig. 1B). The MRI of the right hip revealed soft tissue edema in the iliopsoas, external rotators and gluteus minor, bone marrow edema in the acetabulum, femoral head and neck and the presence of irregular focal low-intensity bands on T1-weighted sequence (Fig. 1C) and high-intensity bands on T2-weighted sequence (Fig. 1D). Infectious, malignant and inflammatory pathologies were ruled out. Red blood cell count, white blood cell count, erythrocyte sedimentation rate, C-reactive protein and rheumatoid factor were normal. Joint aspiration and synovial fluid cultures for typical and atypical microorganisms were negative. Polymerase chain reaction for mycobacterium species (including *M. tuberculosis*) was also negative. Transcutaneous bone biopsy of the femoral head core (Tru-cut™ biopsy) also excluded neoplastic, infectious or necrotic etiologies and only reported ischemic and bone repair changes. The patient underwent total hip replacement surgery with a posterolateral approach. Post-operative x-rays can be observed

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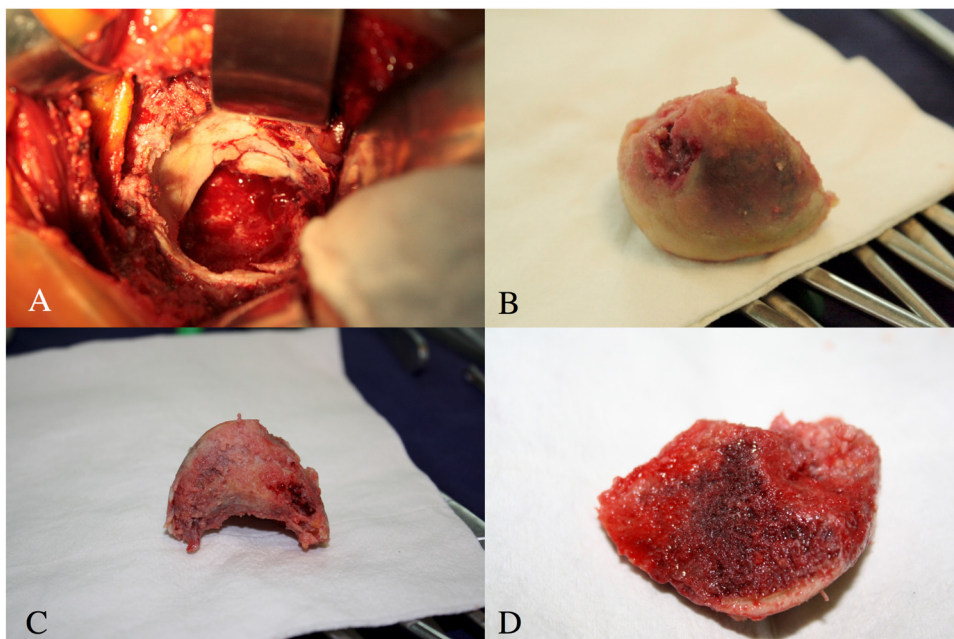
E-mail address: [bonillaguillermo@yahoo.com](mailto:bonillaguillermo@yahoo.com) (G. Bonilla).



**Fig. 1.** (A) X-rays of the pelvis at the onset of symptoms: mild narrowing of the joint space in both hips. (B) X-rays of the hip six weeks after the onset of symptoms: collapse of the right femoral, protrusio acetabuli and minimal proliferative changes (C) MRI T<sub>1</sub>-sequence right hip: bone marrow edema in the acetabulum, femoral head and neck and the irregular focal low-intensity bands. (D) MRI T<sub>2</sub>-sequence right hip: bone marrow edema in the acetabulum, femoral head and neck and the irregular focal high-intensity bands.

in Fig. 4. Intraoperative findings are observed in Fig. 2. A ZCA<sup>®</sup> All Poly Acetabular cemented cup and a VerSys<sup>®</sup> Advocate<sup>®</sup> cemented stem were implanted (Zimmer, Inc. Warsaw, IN, USA).

Histological examination of the femoral head revealed thinning of trabeculae, microfractures, bleeding, reactive cartilage and fibrosis (Fig. 3). At the 4th-month follow-up visit after surgery, the patient



**Fig. 2.** Intraoperative findings (A) Acetabular fracture and (B), (C) and (D) collapsed femoral head.

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