



E-ISSN: 2707-8353
P-ISSN: 2707-8345
IJCRO 2023; 5(2): 53-55
www.orthocasereports.com
Received: 21-05-2023
Accepted: 29-06-2023

A De Castro Carrasco
Servicio de Cirugía
Ortopédicay Traumatología,
Complejo Hospitalario
Universitario de Santiago de
Compostela, Santiago de
Compostela, La Coruña, Spain

LA Montero Furelos
Servicio de Cirugía
Ortopédicay Traumatología,
Complejo Hospitalario
Universitario de Santiago de
Compostela, Santiago de
Compostela, La Coruña, Spain

Corresponding Author:
A De Castro Carrasco
Servicio de Cirugía
Ortopédicay Traumatología,
Complejo Hospitalario
Universitario de Santiago de
Compostela, Santiago de
Compostela, La Coruña, Spain

Bilateral rapidly progressive osteoarthritis of the hip: Case report and review

A De Castro Carrasco and LA Montero Furelos

DOI: <https://doi.org/10.22271/27078345.2023.v5.i2b.175>

Abstract

Currently rapidly progressive osteoarthritis of the hip (RPOH) is an infrequent syndrome that compromises the femoral head and acetabulum described by Forestier in 1957.

There is no standardized definition of the characteristics of this disease. Other diseases such as osteonecrosis or inflammatory and infectious arthropaties process may appear similar or present concurrently with osteoarthritis.

Clinically it is characterized by hip pain characterized by chondrolysis with massive destruction of the femoral head, with or without acetabular involvement. The associated radiographic changes normally occur within 12 months after the onset of symptoms.

The reported incidence is 7.2 to 15.7%. The patient is frequently a woman and the involvement in the vast majority is unilateral. The etiology remains uncertain, but increasing attention in recent years suggesting subchondral fractures as a contributing factor to the development this disease.

We described a case review of a male patient with the development of bilateral RPOH.

Keywords: Dysplasia, osteoarthritis, osteonecrosis, rapidly progressive arthritis

Introduction

Currently rapidly progressive osteoarthritis of the hip (RPOH) is an infrequent syndrome that compromises the femoral head and acetabulum, first reported by Forestier in 1957^[1]. There is no standardized definition of the characteristics of this disease, accepting in many cases the definition proposed by Lequesne as the loss of joint space of 2 mm or more per year or the loss of 50% or more of joint space in one year in the absence of another cause of destructive arthropathy^[2]. Other disease process such as osteonecrosis (painful condition that can be especially difficult to distinguish), inflammatory and infectious arthropaties, may appear similar or present concurrently with osteoarthritis.

Clinically it is characterized by hip pain characterized by chondrolysis associated with massive destruction of the femoral head, with or without acetabular involvement, which is evidenced in a radiographic study in the absence of signs of sepsis, neurological, metabolic or inflammatory disease^[3]. The associated radiographic changes normally occur within 12 months after the onset of symptoms^[4].

The reported incidence is 7.2 to 15.7%^[5]. The patient is frequently a woman and the involvement, in the vast majority of reported cases, is unilateral⁶. The etiology remains uncertain, but subchondral fractures have gained increasing attention in recent years, suggesting subchondral fractures as a contributing factor to the development of rapidly destructive osteoarthritis⁷. With the aim of providing more clinical data, and given the low incidence with which bilaterality is described in this disease, the clinical case of a male patient with the development of bilateral RPOH is reported below.

Case report

We present the clinical case of a 73-year-old man; due to an exacerbation of hip pain of 2 months of evolution, where he reported impossibility to walk without mechanical aids.

Personal history of AHT, Heart Failure with an ejection fraction of 54% and Sleep Apnea-Hypopnea Syndrome under treatment with nocturnal CPAP, as well as a history of prostate cancer with treatment He was referred to an outpatient trauma clinic for right hip pain. He has a body mass index (BMI) of 36.44 and smoking as a toxic habit.

Complementary examinations were performed that included routine laboratory tests with an inflammatory profile and lumbar and pelvic x-rays (Fig. 1), which showed degenerative changes at the level of both hips with decreased joint space, without osteophytosis, with

maintenance of joint morphology, osteoarthritis of the hip, the process to which the symptoms were attributed; no other relevant findings.

Twelve months later, the patient was admitted to the Orthopaedic Service for scheduled total hip arthroplasty (THA) surgery, having suffered an even greater exacerbation of hip pain during the time on the waiting list, limiting mobility to a wheelchair. He was admitted for surgery arriving in a wheelchair.

The right hip surgery was performed through posterior approach, a remarkable destruction of the right femoral head as well as the acetabulum was evidenced, take samples for strip leucocyte esterase assay and alpha-defensin test both negative. Take samples for microbiology and histology studies. Performing a surgery to cementless total hip arthroplasty replacement implantation acetabular Trident with double mobility and stem cementless Accolade II (Stryker[®]).

The anatomopathological and microbiological studies of bone and synovial tissue extracted were negative. Histological sections reveal severe degenerative joint disease, bone avascular necrosis, and chronic synovial inflammation. The postoperative radiographic control is reported below (Figure 2), evidencing a destruction of the contralateral head with significant acetabular involvement.

The postoperative period was uneventful, with adequate pain control and evolution of the surgical wound, recovering the ability to walk with canes, but with persistent left hip pain. Months later, he underwent a second surgical intervention, in this time in the left hip, performing THA with cementless total hip arthroplasty replacement, acetabular revision with Delta Revision TT cup (Lima[®]) and Corail cementless collar stem (Johnson[®]) (figure 3). Again, samples were sent for a microbiological study that were negative and the anatomopathological study did not differ from the previous one.

The patient evolved without complications, with adequate evolution of the surgical wound and adequate pain control, being referred to a rehabilitation treatment program.

Surgical and rehabilitative treatment were effective, and the discomfort of the patient practically disappeared. He maintained an adequate joint balance in the prosthetic joints and walked with the help of two canes with few restrictions the first three months post-surgery, carrying out progressive withdrawal of aids for ambulation.

Discussion

Although RPOH was described in 1957, there are few references in the literature of it being considered a variation of primary hip osteoarthritis. RPOH remains a poorly understood disease of unknown etiology, where systematic reviews define a more frequent involvement of women, a mean age of 70 years and unilateral involvement [8]. The national registry of England suggests an increase in the incidence of RPOH that may be related to longer surgery waiting lists, since the time from symptoms to destruction can be as short as 12 months [9-11], as exemplified by the clinical case reported.

Pathogenesis of the disease remains uncertain though immunologic effects cytokine mediated, subcondral insufficiency fractures or toxicity NSAIDs consumption are suspected pathologic mechanism, suggesting they impair bone turnover.

At first, x-ray studies show normal anatomy or mild osteoarthritic changes, secondly, months after the appearance of the symptoms appear femoral head and acetabulum destruction, with sclerosis and subchondral cysts with minimal or absence osteophytes. The rapid progression of this disease makes it difficult to obtain sequential radiographs in early stages [3].

RPHO was classified into three types by Lequesne and Amoroux in 1970, it depends on the amount of bone loss and time period over which this takes place [12]. Posteriorly Zagayva *et al.* [7] describe a new grading system and classification for patients with RPHO.

The disease develops, first time the joint space was narrowing (grade I), and progresses to a complete disappearance of the articular joint space (grade II), in this moment the femoral head and acetabulum could be deformed; partial osteolysis appears in grade III, with superolateral ascension of the femoral head in more of them. Histology sections mostly reveal extensive fibrosis of the joint capsule, disappearance of the cartilage in all cases, acute or chronic inflammation of soft tissues, in most cases the synovial membrane revealed inflammation and hyperplasia; and bone with absence of specific inflammatory cells, bone resorption and focal loci of osteonecrosis in the subchondral bone and also of a distinction between healthy and necrotic tissue.

The review carried out by Charrois *et al.* [13] found that THAs carried out in patients with RPOH have a higher degree of difficulty and frequently require additional procedures due to bone loss, longer duration of surgery and need for further procedures, particularly acetabular reconstruction, increased transfusion requirements and longer surgical time. This is consistent with the clinical case reported in which he required dual mobility THA, as well as a revision cup on the left side due to the significant bone loss described. In this line, Kawai *et al.* [10] used kerboul-type acetabular reinforcement devices and graft in all their reported cases, Yuasa *et al.* [11] and Peters *et al.* [14] report the use of a revision acetabulum in all their cases.



Fig 1: Initial pelvic radiograph shows narrowing of the joint space and subchondral sclerosis, without osteophytosis



Fig 2: The pelvic radiograph shows postoperative control of the right CTA and shows acetabular and femoral destruction of the left hip



Fig 3: The pelvic radiograph shows postoperative radiographic control

Conclusion

The RPOH is a disease that causes a rapid unfavourable evolution of the symptoms with a significant affectation in mobility and severe disability. Bilaterality is a rare but possible feature in this disease.

References

1. Forestier F. Coxite rhumatismales subaigues et chroniques. Thesis; c1957.
2. Lequesne M. Coxarthrose destructive rapide. *RevRhum.* 1970;37:721-733.
3. Batra S, Batra M, McMurtrie A, Sinha A. Rapidly destructive osteoarthritis of the hip joint: a case series. *J OrthopSurg Res.* 2008;3:3.
4. Nelson FRT, Bhandarkar VS, Woods TA. Using hip measures to avoid misdiagnosing early rapid onset osteoarthritis for osteonecrosis. *J Arthroplast.* 2014;29:1243-1247.
5. Boutin RD, Pai J, Meehan JP. Rapidly progressive idiopathic arthritis of the hip: incidence and risk factors in a controlled cohort study of 1471 patients after intra-articular corticosteroid injection. *SkeletRadiol.* 2021;50:2449-2457.
6. Baryeh K, Asopa V, Field R, Sochart DH. The outcomes of total hip arthroplasty in rapidly progressive

osteoarthritis: a systematic review. *Eur J Orthop Surg Traumatol.* 2022 Sep 23:1-10.

7. Zazgyva A, Gurzu S, Gergely I. Clinico-radiological diagnosis and grading of rapidly progressive osteoarthritis of the hip. *Medicine (United States).* 2017;96:1-7.
8. Registry NJ. National joint registry - 17th annual report. *NatJtRegist;* c2020.
9. Irwin LR, Gopalakrishnan RN, Chattopadhyay S, Roberts JA. Rapidly progressive osteoarthrosis of the hip. *CurrOrthop.* 1997;11:36-39.
10. Kawai T, Tanaka C, Ikenaga M. Total hip arthroplasty using kerboul-type acetabular reinforcement device for rapidly destructive coxarthrosis; c2010.
11. Yuasa T, Maezawa K, Nozawa M, Kaneko K. Midterm outcome of total hip arthroplasty for rapidly destructive coxarthrosis. *J OrthopSurg.* 2016;24:27-30.
12. Karayiannis P, Walls A, Cassidy R, Beverland D. Rapidly Progressive Osteoarthritis and Acetabular Bone Loss Outcomes for Patients Undergoing Primary Total Hip Replacement. *Arthroplast Today.* 2020;6(3):289-295.
13. Charrois O, Kahwaji A, Vastel L, Rosencher N, Courpied JP. Bloodloss in total hip arthroplasty for rapidly destructive coxarthrosis. *Int Orthop.* 2001;25(1):22-4.
14. Peters KS, Doets HC. Midterm results of cementless total hip replacement in rapidly destructive arthropathy and a review of the literature. *HIP Int.* 2009;19:352-358.

How to Cite This Article

A De Castro Carrasco, LA Montero Furelos Bilateral rapidly progressive osteoarthritis of the hip: Case report and review. *International Journal of Case Reports in Orthopaedics* 2023; 5(2): 53-55.

Creative Commons (CC) License

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.