Osteoarthritis of the hip: case report and literature review

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ABSTRACT
Osteoarthritis of the hip is a chronic and progressive degenerative disease. It is one of the most prevalent and disabling conditions in the elderly population, whose main risk factors include age, gender, chronic diseases, dysplasia, joint laxity, high body mass index, intense physical activity and work activity with great physical effort. It usually presents with progressive pain and progressive joint stiffness, which directly affects the patient's quality of life. The present work aims to describe a real clinical case and discuss its main aspects in the light of the literature. From the work it was found that there is no consensus for the best treatment of hip osteoarthritis, however, despite the associated risks, total hip arthroplasty is a good therapeutic method. It is worth mentioning that the conduct must be individualized and aligned with the patient's needs.

Keywords: Hip Arthrosis, Coxarthrosis, Hip Joint

1 INTRODUCTION

Arthrosis of the hip is also known as osteoarthritis, osteoarthritis, degenerative arthritis of the hip, or coxarthrosis. It is a chronic degenerative disease characterized by progressive wear of the articular cartilage and its adjacent structures.

Hip osteoarthritis (OA) is among the most prevalent and disabling conditions affecting the elderly population (MURPHY et al, 2011). The overall incidence in the population of symptomatic hip osteoarthritis is about 88 per 100,000 population. It is estimated that in the adult population over 55 years of age, 4.4% are affected by symptomatic hip osteoarthritis (FILHO et al, 2012).

In general, risk factors can be divided into intrinsic and extrinsic. General factors include age, gender, diabetes and hypertension (FILHO et al, 2012). Among the intrinsic factors, dysplasias and joint laxity stand out, while extrinsic factors include high body mass index, intense physical exercise and heavy labor activity (ARESTI et al, 2016).

The clinical picture of hip osteoarthritis is typically characterized by progressive joint pain and stiffness. The disease becomes chronic with nocturnal pain, morning stiffness at rest and difficulty walking, affecting the patient's quality of life (ARESTI et al, 2016).

The theme of this study is justified due to the high prevalence of coxarthrosis in the elderly population, combined with the restriction of locomotion caused by the disease and consequently the decrease in quality of life.

This paper aims to report a real case of a patient with typical coxarthrosis, discussing the main characteristics of the aforementioned pathology, using an integrative literature review.

2 CASE REPORT

J.R.B.N, male, 53 years old, brown, bricklayer, resident and native of Italva (RJ). He was admitted to the emergency department of Hospital São José do Avaí complaining of "a lot of pain in the right loss and difficulty walking". Patient presented with right coxalgia (intensity 9/10) of mechanical rhythm with 2 years of evolution and progressive worsening. No history of trauma. No psoriasis, ocular or gastrointestinal pathology. No previous arthritis, podagra, renal lithiasis, or any other type of osteoarticular complaints (notably inflammatory lumbago, enthesopathic complaints). Occasional alcohol consumption (5 cans of beer per weekend). Denies smoking. Reports allergy to dipyrone and adhesive plaster. Reported hypertension and diabetes mellitus. Regular use of losartan and metformin.

Regarding family history, hypertensive mother, father died at 72 years of age by AMI also presented coxarthrosis after 50 years, had 3 healthy brothers.

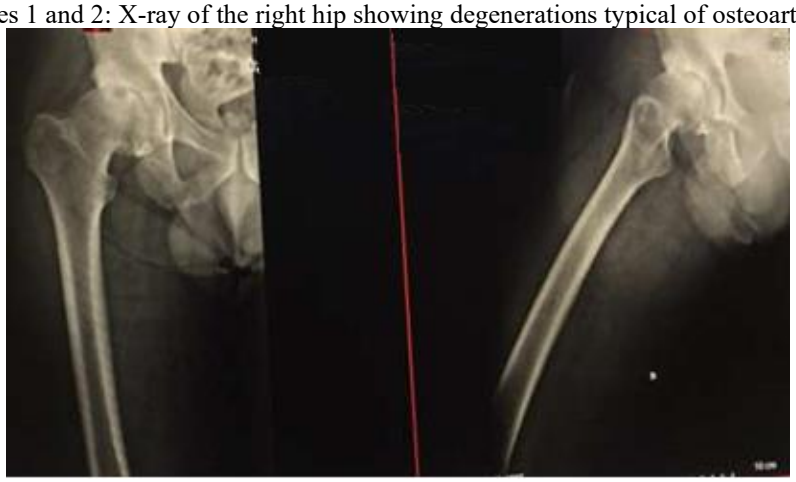
Physical examination: limited rotation, especially internal rotation of the right hip joint (internal rotation: 20°; external rotation: 40°), without pain. Sacroiliac maneuvers were negative. No joint swelling. Weight: 92 kg Height: 1.72 m.

Laboratory tests: ESR 11 mm/1 hour (N< 20); CRP 15.6 mg/dl (N< 3.19); phospho-calcium metabolism, thyroid function, iron metabolism and 24-hour urine normal. Uric acid 7.8 mg/dl (N< 7.2). HLA B27, rheumatoid factor and anti-nuclear antibodies negative.

Management: Patient underwent total hip arthroplasty with uncemented titanium - polyethylene prosthesis.

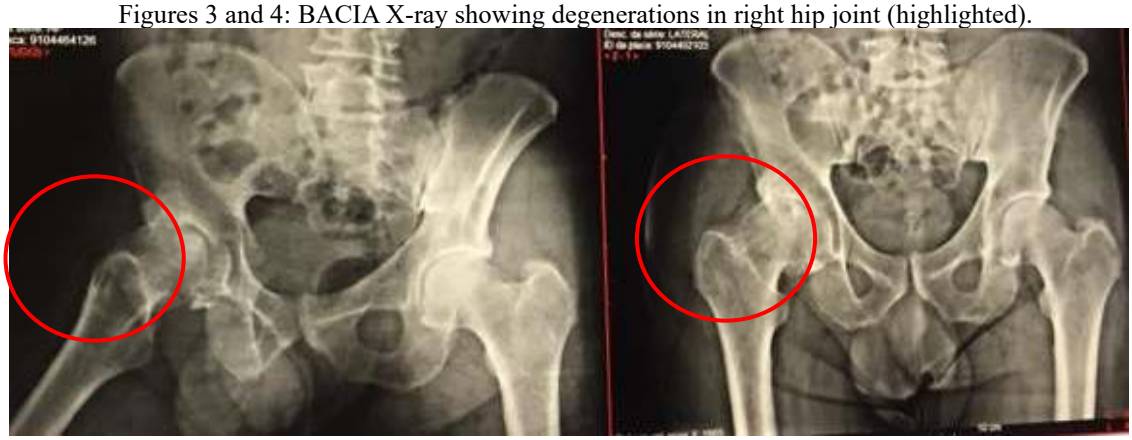
Imaging tests:

Figures 1 and 2: X-ray of the right hip showing degenerations typical of osteoarthritis.



Source: Authors' collection

Figures 3 and 4: BACIA X-ray showing degenerations in right hip joint (highlighted).



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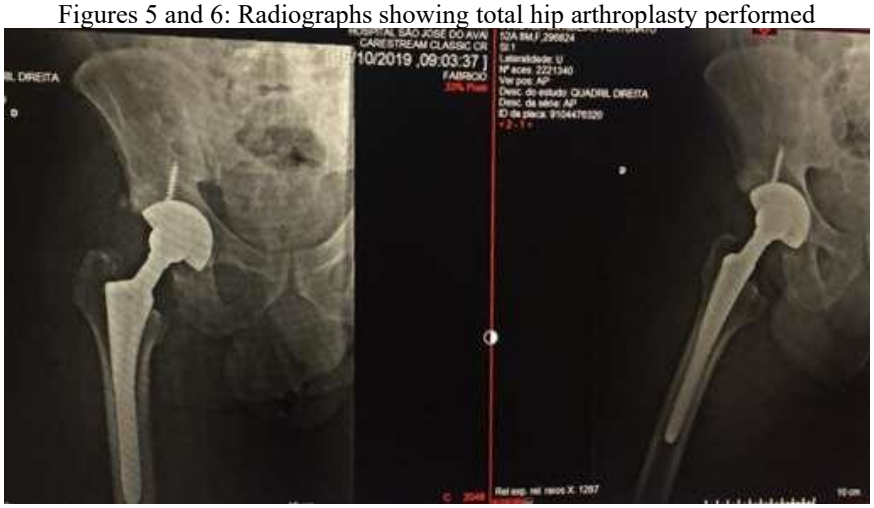
Figures 5 and 6: Radiographs showing total hip arthroplasty performed



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3 DISCUSSION

Etiology and risk factors

Risk factors for coxarthrosis can be divided between those directly related to the joint and to the individual as a whole, with the caveat that these two categories of risk factors do not exist independently of each other. Rather, joint-level risk factors can be considered the etiologic basis for the development of hip OA, while whole-person-level risk factors contribute to the development of hip OA indirectly by increasing susceptibility to joint-level risk factors.

Pathological biomechanical stress is caused by the presence of risk factors, both at the joint level and in the individual, and plays a central role in initiating and driving the pathogenesis of coxarthrosis (MURPHY et al, 2011). In addition to the aforementioned risk factors, some studies have demonstrated a 50% heritability of coxarthrosis associated with genetic factors (ARESTI et al, 2016).

Filho et al (2012), states that excessive body weight accentuates the wear and tear of weight-bearing joints. Obesity alone, however, could not explain the onset of the disease. If it were, there would be an involvement of several joints, both in those that serve as support and in those that do not

support load. What can be said is that obesity may aggravate and accelerate the course of the disease in weight-bearing joints once the changes have started.

Most often, the cause of hip osteoarthritis is multifactorial. A number of risk factors lead to instability, misalignment, increased joint load, microtrauma and structural damage.

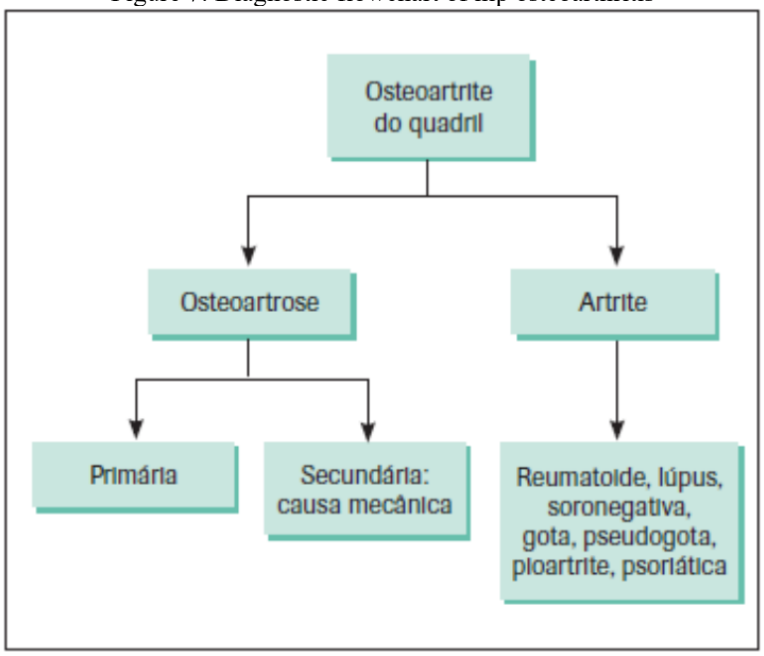
Thus, the case described has a multifactorial etiology, considering the absence of trauma, the chronification of the condition over time (complaint of evolution and worsening of 2 years) and the presence of risk factors. Such as obesity, intense labor work and positive family history.

Classification

The patient with hip pain without a previous history of trauma can be identified in two large groups that are not totally exclusive: pain of mechanical cause and pain of inflammatory cause.

According to Filho et al (2012): "Osteoarthritis is said to be secondary when a mechanical factor is very evident, for example, arthrosis secondary to all sequelae of childhood and adolescent and young adult diseases, and primary osteoarthritis is considered to be all hip osteoarthritis in which any inflammatory rheumatic pathology has been ruled out and any mechanical cause that may have altered the biomechanics of the joint and led to the loss of hyaline cartilage.As a general rule, pain related to activities of a progressive nature throughout the day that improves with rest suggests a mechanical cause and pain accompanied by morning stiffness not related to the use of the joint suggests an inflammatory predominance."

Figure 7: Diagnostic flowchart of hip osteoarthritis



Source: Filho et al (2012).

It is verified that the clinical case studied shows a hip osteoarthrosis of mechanical cause, since it has a progressive character. Even though it is not associated with inflammatory rheumatic pathology or sequelae of childhood diseases, intense labor work for years associated with obesity is evidenced, suggesting biomechanical alterations of the joint under study.

Diagnosis

According to Aresti et al (2011), a well-done anamnesis and clinical evaluation are usually sufficient for the diagnosis of hip osteoarthritis, as well as to rule out other diagnoses.

According to Judas (2011), are diagnostic criteria of coxarthrosis: "The adult age (beginning between 40-60 years), slow and progressive clinical evolution, mechanical characteristics of pain, absence of biological signs of inflammation, precocity and frequency of radiological osteophytosis, radiological evolution of advanced triad (osteophytosis, interarticular narrowing, subchondral bone sclerosis), subchondral cysts (geodes). Specifying some criteria the American College of Rheumathology defined, hip pain for most days in the last month, associated with at least two of the following three findings: ESR less than or equal to 20mm/hour; narrowing of the joint gap or presence of acetabular or femoral osteophytes. "

The clinical case studied is in line with the literature described, and from the anamnesis and physical examination described, it is already possible to converge a diagnostic reasoning for the pathology studied. In addition, the main diagnostic criteria recommended are also observed, thus confirming the diagnostic hypothesis.

Treatment

Patients often see osteoarthritis as an intrinsic degeneration of age, rather than the associated pathology. In general, younger patients seek medical help earlier, increasing their chance of successful conservative treatment. In the case under study, the patient sought medical help late, only after the condition worsened and became more chronic.

The treatment of hip osteoarthritis can be divided into three main modalities: drug, non-drug and surgical. Patients with primary or secondary hip osteoarthritis should exhaust the possibilities of clinical treatment before considering definitive surgical treatment, i.e. total hip arthroplasty (FILHO et al, 2012).

Drug treatment includes the prescription of analgesics, non-hormonal anti-inflammatory drugs and chondroprotectors. It is worth noting that the risk of renal, hepatic, gastrointestinal and cardiac complications should always be considered in these prolonged treatments.

Non-drug treatment should be part of the patient's routine, and includes weight loss in cases of obesity, aiming at probable improvement when associated with diet and strengthening exercises.

Nevertheless, you can associate some exercises such as counter-resistance aimed at reducing pain and gaining joint amplitude (FILHO et al, 2012).

These treatments aim to integrate and provide a regression of the worsening of the case and consequently of its symptoms such as pain and loss of joint range. However, in chronic patients, such as the case studied, clinical management is not feasible only from the conventional therapies described above.

Surgical treatment should always be considered if clinical treatment options fail. Surgical treatment options include total hip arthroplasty, femoral osteotomy, acetabular osteotomy, arthrodesis and resection arthroplasty.

There are no guidelines on the best treatment for hip osteoarthritis. However, Learmonth, Young and Rorabeck (2007) state that total hip arthroplasty is the first indication for surgical treatment in hip osteoarthritis, whether of mechanical or inflammatory origin, considering its risk-benefit ratio.

Despite the high success rate, especially with the advancement of bioengineering, which can increasingly postpone the need for surgical revision, total hip arthroplasty presents possible complications that should be clearly exposed to the patient, including infection, deep vein thrombosis, dislocation, neurological injury, vascular injury, pulmonary embolism and death (FILHO et al, 2012).

The patient studied underwent total hip arthroplasty as recommended by some authors, and his case progressed without intercurrence or complications.

4 FINAL CONSIDERATIONS

The aging process involves progressive physiological changes throughout the individual's life. Consequently, there is an increase in the prevalence of diseases such as hip osteoarthritis, which is one of the main causes of morbidity and mortality among older people.

Chronic cases of the disease evolve with pain, difficulty walking, a sharp drop in quality of life and significant economic consequences. Its condition has a multifactorial etiology and its diagnosis is basically clinical, being confirmed by radiography.

When deciding on treatment options, the physician should consider psychological factors such as work activity, quality of life, mood, relationships and leisure, since this is a non-lethal disease whose proposed treatment can be lethal.

Therefore, an individualized and diversified therapeutic program should be proposed, in which the patient's rehabilitation has a unique role.

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