

Case Report

Idiopathic Chondrolysis in Adults Treated with Surgical Dislocation of the Hip

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Abstract

An uncommon case of idiopathic chondrolysis of the hip in a 21-year-old male is reported. It was diagnosed by clinical presentation, laboratory tests, radiological and pathological findings. Surgical dislocation of the hip was performed as operative treatment to remove the severe osteophytes after failure of conservative treatment. This paper reviews the cases described in the literature.

INTRODUCTION

Idiopathic chondrolysis of the hip (ICH) was first reported by Jones in 1971 with clinical records of 9 patients aged between 9 and 16 years [1]. ICH is characterized by pain and limp during adolescence, with progressive loss of articular cartilage space and stiffness of the hip [2]. The term *idiopathic chondrolysis* is used to differentiate the condition from that associated with slipped capital femoral epiphysis, trauma, or inflammatory disease [3]. Treatment for pediatric disorders usually consists of analgesics, physical therapy, and protection against weight bearing. However, information on adult cases is limited to a few reports [4,5]. Here, we present a rare case of ICH in a young adult who underwent operative intervention.

CASE PRESENTATION

A 21-year-old man with no history of fever, trauma, or other joint complaints experienced pain and stiffness of the right hip for 9 months. The patient had no history of major childhood diseases and no family history of major joint diseases. He first reported a gradually increasing restriction of motion a few years earlier. On physical examination, he walked with a limp, and his right hip was painful during mobilization. Flexion was reduced to 50°, extension to -10°, abduction to 15°, and adduction to 5°. The spine, sacroiliac joints and knee joints were normal on physical examination. Laboratory tests for erythrocyte sedimentation rate, C-reactive protein, rheumatoid factor, antinuclear antibody, and blood cell count were normal. Standard radiography revealed diffuse joint space narrowing with periarticular osteophytes in the involved hip (Figure 1). Radiographic findings of the lumbar spine, sacroiliac joints, and knee joints were normal. Magnetic resonance imaging (MRI) demonstrated marked cartilage thinning and subchondral irregularity of the right hip joint with bone marrow edema involving the femoral head (Figure 2 A,

B, C). Mild edema was also seen involving the acetabulum, in addition to mild joint effusion and synovial hypertrophy around the femoral neck (Figure 2 C).

Based on clinical presentation, laboratory parameters, and radiological finding, we suspected that the patient had ICH. Treatment initially consisted of non-steroidal anti-inflammatory drugs (NSAIDs) and weight-bearing control by means of a cane. Later, intra-articular injections of hyaluronic acid were given. However, the patient continued to be symptomatic despite undergoing conservative treatment for 1 year (Figure 3). Because the results of conservative treatment were not significant, operative intervention with surgical dislocation of the hip was chosen to trim the osteophytes on the periphery of the femoral head and acetabulum (Figure 4). Pathological findings showed mild infiltration of chronic inflammatory cells, these mostly being lymphocytes and plasma cells in the synovial tissues. Pathological diagnosis was nonspecific chronic synovitis. A continuous passive motion machine was employed postoperatively for 4 weeks. Partial weight bearing with crutches was started at 6 weeks after the operation, and full weight bearing was allowed



Figure 1 Standard radiograph showing diffuse narrowing of the joint space in the right hip joint.

at 4 months. Pain and limp were improved, and the patient could return to his work at 8 months. Radiography revealed further improvement and slight widening of the joint space 15 months after the operation (Figure 5).

DISCUSSION

ICH is a relatively uncommon pediatric hip disorder of unknown etiology which is characterized by ache, limp,

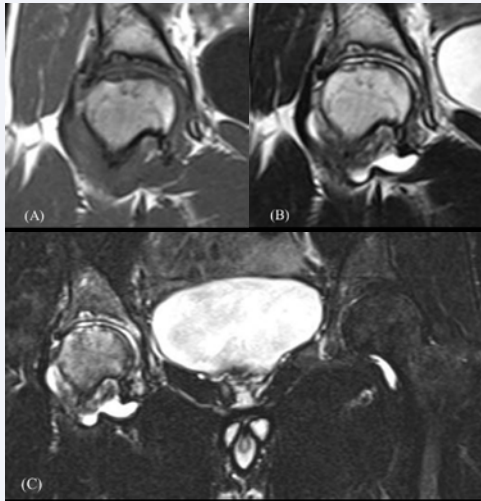


Figure 2 Magnetic resonance imaging with T1-weighted (A) and T2-weighted images (B) showing cartilage thinning and subchondral destruction. Magnetic resonance imaging with short inversion-time inversion recovery images (C) showing bone marrow edema and mild joint effusion in the right hip joint.



Figure 3 Pre-operation radiograph showing severe restriction and pelvic tilt.



Figure 4 Post-operation radiograph showing improved restriction and improved pelvic tilt.



Figure 5 Radiograph at 15 months after operation showing slightly widening of the joint space.

progressive restriction of movement, and a uniform reduction of joint space [1]. Its diagnosis relies primarily on the elimination of other common causes of chondrolysis such as infection, inflammatory hip disease, Perthes disease, slipped capital femoral epiphysis, and trauma [1-3]. ICH occurs chiefly in adolescents [1-3, 6-26]. This characteristic age of onset is one of the diagnostic criteria. However, only a few cases of ICH diagnosed in young adults between 20 and 37 years of age have been reported. Plain radiography supports the diagnosis by showing narrowing of the circumferential joint space and periarticular osteopenia, and later changes include protrusio acetabuli, coxa magna, osteoarthritis with subchondral cyst and marginal osteophytes, and ankylosis. MRI demonstrates cartilage loss, bone marrow edema, mild synovial hypertrophy, and little joint fluid [MRI and pathological findings are also important for ruling out causes of secondary chondrolysis]. In our case, the patient was referred to us at 21 years old. Nevertheless, his clinical presentation, laboratory test results, radiological findings, and pathological findings aided in the diagnosis.

Treatment for ICH usually rests on the administration of NSAIDs, physical therapy, and protection against weight bearing by traction or crutches [5, 7, 15, 19, 22-24]. Recently, etanercept was tried as a possible treatment for ICH due to its powerful anti-inflammatory effect [24]. After symptoms fail to respond to conservative treatment, operative intervention is attempted to achieve satisfactory results, and arthrotomy, capsulectomy with muscle release, arthrodesis, and hip replacement are the primarily performed surgical procedures [2-4, 8-10, 12, 14, 17, 18, 21]. In our case, the patient continued to be symptomatic, and his limp worsened due to severe contracture of flexion, abduction, and external rotation with pelvic tilt to the right despite receiving medical therapy and intra-articular injections (Figure 3). Three-dimensional computed tomography showed osteophytes with a notable circumference in the femoral head and acetabulum in the anterior margin (Figure 6). Surgical dislocation of the hip was finally chosen as a surgical intervention to remove the severe osteophytes after conservative treatment failed to do so for 1 year (Figure 7). The procedure enabled full access to the femoral head and acetabulum while avoiding damage to the vascularity of the femoral head [27] (Figure 8). Postoperatively, the range of motion of the involved hip was improved (Table 1).

Although the patient has maintained satisfactory results for 15 months after the operation, hip replacement may be the only option should the unfavorable condition recur in the future.

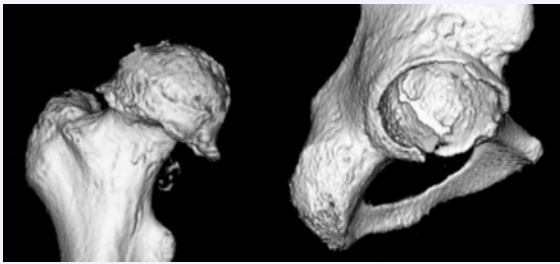


Figure 6 Three-dimensional computed tomography showing osteophytes with a notable circumference in the femoral head and acetabulum in the anterior margin.

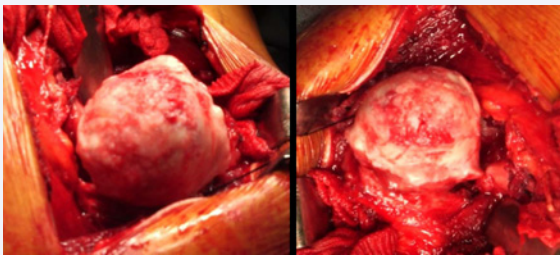


Figure 7 Appearance of the femoral head at operation: A distinct loss of cartilage and marginal osteophytes are visible.

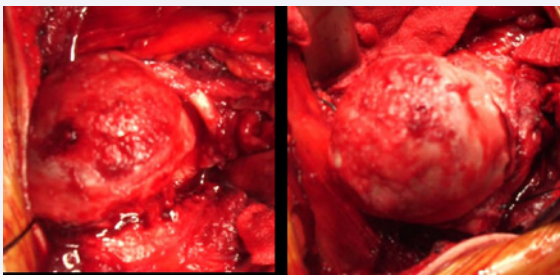


Figure 8 360-degree access to the hip joint at operation: Osteophytes were trimmed in the femoral head and acetabulum.

Table 1: The range of Motion.

	Pre-Operation		Post- Operation
	Right hip	Left hip	Right hip
Flexion	40	125	65
Extension	-10	10	0
Abduction	20	30	20
Adduction	0	15	10
External Rotation	30	50	40
Internal Rotation	-20	35	0

Post - Operation:1 Mounth After Operenation

DISCLOSURE POLICY

The authors declare that there is no conflict of interests regarding the publication of this article

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