

FİZİKSEL TIP

HIP INVOLVEMENT IN RHEUMATOID ARTHRITIS

ROMATOİD ARTRİTTE KALÇA TUTULUMU

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SUMMARY

This study was performed to investigate hip involvement in 40 patients with rheumatoid arthritis. The relationship between hip joint damage and disease duration, disease activity, physical disability index were evaluated. Anteroposterior pelvis radiographs of the patients were taken and evaluated by a radiologist according to the Larsen score. The disease duration was significantly longer in patients with hip involvement ($p<0.05$) and disease activity parameters such as duration of morning stiffness, pain, Ritchie Articular Index, C-reactive protein (CRP) and physical disability index such as Health Assessment Questionnaire (HAQ) values were also significantly higher in patients with hip involvement ($p<0.05$). We conclude that patients with high disease activity and physical disability index have to be monitorized about hip involvement.

Key Words: Rheumatoid arthritis, hip involvement

ÖZET

Bu çalışma romatoid artritli 40 hastada, kalça tutulumunu incelemek için yapıldı. Eklem hasarı ile hastalık süresi, hastalık aktivitesi ve fiziksel özrürlülük derecesi arasındaki ilişkiler incelendi. Hastaların anteroposterior pelvis grafileri bir radyolog tarafından incelendi ve Larsen sınıflamasına göre skorlandı.

Hastalık süresi kalça tutulumu olan hastalarda daha uzun idi ($p<0.05$). Yine sabah tutukluğu, ağrı, Ritchie Eklem İndeksi ve C-reaktif protein (CRP) düzeyleri gibi hastalık aktivite göstergeleri ve Health Assessment Questionnaire (HAQ) gibi fiziksel özrürlülük dereceleri kalça tutulumu olan hasta grubunda anlamlı olarak daha fazla idi. Sonuç olarak yüksek hastalık aktivitesi ve disabilite değerlerine sahip hastalar kalça tutulumu açısından iyi takip edilmelidirler.

Anahtar kelimeler: Romatoid artrit, kalça tutulumu

Rheumatoid arthritis (RA) is an autoimmune disease of unknown etiology characterized by symmetric, erosive synovitis and sometimes multisystem involvement. It affects 1% of the adult population and exhibits a chronic fluctuating course which may result in progressive joint destruction, deformity, disability and premature death (1).

The hip joint may be affected in 15% to 28% of all patients with rheumatoid arthritis. There are also articles reporting up to %50 hip involvement in rheumatoid arthritis. Radiographic evidence of involvement includes periarticular osteopenia, cystic changes, and a variable amount of progressive protrusio acetabuli (2).

In this study we studied the involvement of the hip joint in a group of 40 patients with RA and the relationship between hip joint damage and disease duration, disease activity and physical disability index.

MATERIALS AND METHODS

This study was performed in 40 patients with a diagnosis of rheumatoid arthritis according to American Rheumatism association (ARA) criteria (mean age 52.71 ± 10.49 years; range 32-74 years; 7 men, 33 women) (3). Patients had been treated with non-steroidal anti-inflammatory drugs and second line anti-rheumatic drugs.

Anteroposterior pelvis radiographs of the patients were taken and evaluated by a radiologist according to Larsen's Standard Radiographs with a grading of 0-5 for the hip joint.

Grade 0, normal conditions: Abnormalities not related to arthritis, such as marginal bone deposition;

Grade 1, slight abnormality: One or (more) of the following lesion is present: Periarticular soft tissue swelling, periarticular osteoporosis and slight joint space narrowing;

Grade 2, definite abnormality: Small erosions are present in the finger and toe joints. Joint space narrowing is not obligatory in these joints. In the large joints, joint space narrowing must be present, erosions are not obligatory;

Grade 3, marked abnormality: Erosions and joint space narrowing must be present;

Grade 4, severe abnormality: The original articular surfaces are still partly preserved;

Grade 5, mutilating abnormality: The original articular surfaces have disappeared. Gross deformation is present (4).

Patients with grade 0 were divided as Group 1 (no hip involvement) and patients with grade 1,2,3,4 and 5 were divided as Group 2 (hip involvement). Bilateral hips were evaluated and the hip with higher Larsen score was considered as determinant of the patients' group.

Clinical and laboratory measurements were performed for the assessment of disease activity, including the duration of morning stiffness (minutes), pain (visual analog scale 0-10), Ritchie Articular Index (0-78), Stanford Health Assessment Questionnaire (HAQ) and C-reactive protein (CRP) (mg/L).

Group 1 and 2 were compared according to these parameters. Statistical analysis was performed using Independent Samples t test.

RESULTS

Table 1 presents the radiological characteristics of patients with and without hip involvement. 23 (57,5%) patients were evaluated as Grade 0; 5 (12,5%) patients were as Grade 1; 4 (10%) were as Grade 2; 6 (15%) patients were as Grade 3; 2 (5%) patients as Grade 4.

Table 1. The radiological characteristics of patients with and without hip involvement

GROUPS	Larsen grade	Number of patients (%)
GROUP 1	Grade 0	23(57,5)
GROUP 2	Grade 1	5(12,5)
	Grade 2	4(10)
	Grade 3	6(15)
	Grade 4	2(5)
	Grade 5	0(0)

Table 2 presents the clinical characteristics of patients with and without hip involvement. The disease duration was significantly longer in patients with hip involvement ($p<0.05$) and also disease activity parameters such as duration of morning stiffness, pain, Ritchie Articular Index, and CRP and physical disability index such as HAQ values were significantly higher in patients with hip involvement ($p<0.05$).

Table 2. Comparison of clinical parameters of Group 1(with hip involvement) and Group 2 (without hip involvement)

	GROUP1 Mean±SD	GROUP2 Mean±SD	P value
Duration of morning stiffness (minutes)	76.8±36.82	128.5±53.98	$p<0.05$
Pain (visual analog scale 0-10)	6.04±1.42	7.42±1.39	$p<0.05$
Ritchie Articular Index(0-78)	34.29±13.18	46.00±11.52	$p<0.05$
HAQ	1.29±0.51	1.70±0.14	$p<0.05$
CRP (mg/L)	21.52±12.67	37.39±10.73	$p<0.05$
Duration of disease (months)	52.92±35.98	145.20±110.04	$p<0.05$

DISCUSSION

The consequences of long-term rheumatoid arthritis (RA) can be described in terms of destruction, impairment, disability and handicap. Joint destruction as measured by radiographs is objective and determined principally by the biological process underlying RA. Radiographs are therefore often used in clinical studies as a measure of joint destruction and disability. Radiographic damage appears early in RA and progression is continuous during the first two decades of the course of disease (5-7). Like the radiographic damage in hands and feet, damage to the large joints occurs early in the disease and shows progression over the years

Radiographic damage to the large joints has been investigated in a limited number of studies (8-9). One prospective follow-up study found abnormalities of at least one large joint in 50% of the patients after 6 years follow-up (10). There are also follow-up studies reported the presence of large joint prosthesis in RA (10-12). In these three studies, respectively, a total hip prosthesis was found in 13 and 6% of the patients after 6 years of follow-up and in 8.3% after 15 years follow-up. The most frequently affected joints were the large joints of the upper extremity and the knees. Similar frequencies of involvement of the individual large joints were found in two studies of the long-term radiographic damage of the large joints, which showed the hips and ankles to be the least frequently affected (8-9). The hip joint may be affected in 15% to 28% of all patients with rheumatoid arthritis. However there are also articles reporting up to 50% of hip involvement in rheumatoid arthritis

Since radiological joint damage represents an accumulation of past disease activity, the disease duration was significantly longer in patients with hip involvement in our study ($p < 0.05$).

The studies about the relation between radiological scores and disability measures are controversial. Disability has been found to be associated with disease activity, radiological damage and psychological factors (13-17). Large joint damage has been found to be an important determinant of functional capacity. However in another study, a weak correlation ($r = 0.38$) was found between large joint involvement and the HAQ score after 6 years of follow-up (10).

Correlations between radiological progression and time integrated values of disease activity measures have been found to be rather strong, especially between joint inflammation and ESR and CRP level.

We found significantly higher disease activity and physical disability index values in patients with hip involvement ($p < 0.05$). So we suggest that patients with high disease activity and physical disability index have to be monitored about hip involvement

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