

## A common assessment tool in inflammatory rheumatisms

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### Abstract

*Aims:* Once the biologic therapies have been used, the present-day medicine trend is to homogenize the treatment of the inflammatory autoimmune rheumatic diseases, meaning rheumatoid arthritis (RA), ankylosing spondylitis (AS), psoriatic arthritis (PsA) and systemic lupus erythematosus (SLE). But, there is still the need to find out a common assessment instrument for this pathology. *Methods:* The study included 120 patients (40 patients with RA, 40 patients with AS, 20 patients with PsA and 20 patients with SLE). They were assessed at the beginning and at the end of the study period by using both DAS (Disease Activity Score) and HAQ (Health Assessment Questionnaire) scales. BASDAI (Bath AS Disease Activity Index) was used for AS patients and SLEDAI (SLE Disease Activity Index) for SLE patients. *Results:* The RA patients had significant improvements regarding both DAS and HAQ scores (DAS mean score was initially 4.49 and finally 3.75; HAQ mean score was initially 1.78 and finally 2.15;  $p < 0.05$ ). Important improvements were registered in AS patients (DAS mean score was initially 5.25 and finally 4.02; HAQ mean score was initially 2.24 and finally 2.57; BASDAI mean score was initially 4.28 and finally 3.21;  $p < 0.05$ ), in PsA patients (DAS mean score was initially 7.32 and finally 5.15; HAQ mean score was initially 2.1 and finally 2.51;  $p < 0.05$ ) and in SLE patients (DAS mean score was initially 4.4 and finally 3.45; HAQ mean score was initially 1.9 and finally 2.4; SLEDAI mean score was initially 24.7 and finally 12.5;  $p < 0.05$ ). *Conclusions:* Having in view that the DAS scale analyses complex aspects (clinical activity of the disease, its inflammatory lab evidence, patient's general health status), as well as its good correlation to other specific disease scales, it can be used as a more widely assessment instrument in the autoimmune inflammatory rheumatisms.

**Keywords:** *Rheumatoid Arthritis; Ankylosing Spondylitis; Psoriatic Arthritis; Systemic Lupus Erythematosus; Outcomes Assessment.*

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## Rezumat

**Obiectivele studiului:** Odată cu utilizarea terapiilor biologice, tendința medicinei moderne este de a uniformiza tratamentul din bolile reumatismale inflamatorii de etiologie autoimună și anume din poliartrita reumatoidă (PR), spondilita anchilozantă (SA), artropatia psoriazică (APs) și lupusul eritematos sistemic (LES). Cu toate acestea, se impune găsirea unui instrument comun de evaluare a patologiei mai sus menționate. **Material și metodă:** Studiul a inclus 120 de pacienți (40 pacienți cu PR, 40 pacienți cu SA, 20 pacienți cu APs și 20 pacienți cu LES). Aceștia au fost evaluați la începutul și la sfârșitul studiului prin utilizarea scalelor DAS (Disease Activity Score) și HAQ (Health Assessment Questionnaire). Scorul BASDAI (Bath AS Disease Activity Index) a fost aplicat la pacienții cu SA, iar scorul SLEDAI (SLE Disease Activity Index) la pacienții cu LES. **Rezultate:** Pacienții cu PR au prezentat îmbunătățiri semnificative ale scorurilor DAS și HAQ (scorul DAS mediu a fost inițial de 4,49 și final de 3,75; scorul HAQ mediu a fost inițial de 1,78 și final de 2,15;  $p < 0,05$ ). De asemenea, diferențe semnificative ale scorurilor DAS și HAQ au fost înregistrate la pacienții cu SA (scorul DAS mediu a fost inițial de 5,25 și final de 4,02; scorul HAQ mediu a fost inițial de 2,24 și final de 2,57; scorul BASDAI mediu a fost inițial de 4,28 și final de 3,21;  $p < 0,05$ ), la pacienții cu APs (scorul DAS mediu a fost inițial de 7,32 și final de 5,15; scorul HAQ mediu a fost inițial 2,1 și final 2,51;  $p < 0,05$ ) și la pacienții cu LES (scorul DAS mediu a fost inițial 4,4 și final 3,45; scorul HAQ mediu inițial 1,9 și final 2,4; scorul SLEDAI mediu a fost inițial 24,7 și final 12,5;  $p < 0,05$ ). **Concluzii:** Având în vedere faptul că scorul DAS analizează o serie de aspecte complexe (activitatea clinică a bolii, cuantificarea paraclinică a inflamației, starea generală de sănătate a pacienților) și realizează o bună corelație cu alte scale specifice de evaluare a bolilor, el poate fi utilizat ca un instrument comun de evaluare a afecțiunilor reumatismale inflamatorii de etiologie autoimună.

**Cuvinte cheie:** poliartrita reumatoidă; spondilita anchilozantă; artropatia psoriazică; lupusul eritematos sistemic; evaluare funcțională.

## Introduction

The rheumatic diseases represent a painful pathology, that can be acute or in most of the cases a chronic one. It affects the good functioning of the locomotor system. Inflammatory rheumatic diseases can have a severe evolution, even a fatal one or can significantly shorten life expectancy, contributing thus to increase in mortality rate. These facts imply a new approach on the rheumatic diseases that were known in the past as ones that “disturb” and “do not kill” the patients [1, 2].

Nowadays, a longer life expectancy leads the increase of inflammatory rheumatic pathology. The incidence of rheumatoid arthritis (RA) is of 0.5/1000 women and of 0.2/1000 men, meaning approximately 1% of our country population [3-5]. The incidence of ankylosing spondylitis (AS) in adult Caucasian population is about 0.05% to about

0.23% [3]. Psoriasis affects about 1%-2% of population, 10% of whom will develop psoriatic arthritis (PsA) [6, 7]. Systemic lupus erythematosus (SLE) has a prevalence of 40-50 cases to 100,000 people, all the epidemic studies reporting a triple incidence in the last 30 years [8, 9].

Once the biologic therapies have been used, the present-day medicine trend is to homogenize the treatment of the inflammatory autoimmune rheumatic diseases. This biologic therapy is patented for RA, AS and PsA, and still in study for SLE. Both the American College of Rheumatology and the European League against Rheumatism have made common recommendations regarding the diagnosis and the treatment of this pathology [10]. But, there is still the need to find out a common assessment instrument.

## Methods

The study included 120 patients (40 patients with RA, 40 patients with AS, 20 patients with PsA and 20 patients with SLE). They were monitored for a six month period. All of the patients were hospitalised in our Clinic for a 2 week period. They followed a specific drug therapy of the underlying condition (according with international guidelines) and a rehabilitation program. The last one consisted of an adapted and individualised physical therapy program. During the out-patient phase, the patients continued their specific medical treatment.

They were assessed at the beginning and at the end of the study period by using both DAS (Disease Activity Score) and HAQ (Health Assessment Questionnaire) scales [11, 12]. Besides that, BASDAI

(Bath AS Disease Activity Index) was used for AS patients and SLEDAI (SLE Disease Activity Index) for SLE patients [13]. All patients provided written informed consent.

## Results

The mean assessment scores of study patients are presented in detail in Table I.

According to assessment results, it was noticed an improvement of functional scores in all of the study patients. DAS and HAQ scores were significantly improved in all of the study patients (PR, AS, PsA and SLE patients). BASDAI scores had also significantly better results in AS patients as well as the SLEDAI scores in SLE patients.

**Table I.** Assessment scores in study patients

Group patients	DAS score	HAQ score	BASDAI score	SLEDAI score
<b>PR patients</b> (n=40)	I=4.49 ± 0.77 F=3.75 ± 0.21 p-value <0.05	I=1.78 ± 0.8 F=2.15 ± 1.06 p-value <0.05		
<b>AS patients</b> (n=40)	I=5.25 ± 1.1 F=4.02 ± 1.09 p-value <0.05	I=2.24 ± 0.13 F=2.57 ± 0.45 p-value <0.05	I=4.28 ± 1.2 F=3.21 ± 1.05 p-value <0.05	
<b>PsA patients</b> (n=20)	I=7.32 ± 2.7 F=5.15 ± 1.89 p-value <0.05	I=2.1 ± 0.66 F=2.51 ± 0.84 p-value <0.05		
<b>SLE patients</b> (n=20)	I=4.4 ± 1.2 F=3.45 ± 0.99 p-value <0.05	I=1.9 ± 0.23 F=2.4 ± 0.47 p-value <0.05		I=24.7 ± 2.55 F=12.5 ± 2.1 p-value <0.05

I: initial assessment mean score; F: final assessment mean score

## Conclusions

There can be noticed a significantly better improvement functional scores after a six month period of all the patients. These functional scores

are represented by HAQ scale in all the inflammatory rheumatic pathology [14-16], by DAS score in PR patients, by BASDAI in AS patients and also by SLEDAI in SLE patients [17-20].

Having in view that the DAS scale analyses complex aspects (clinical activity of the disease, its inflammatory lab evidence, patient's general health status), as well as its good correlation to other specific disease scales, it can be used as a more widely assessment instrument in the autoimmune inflammatory rheumatisms.

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