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TOPAS vs CASPAR: Applicability in expert dermatologists

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Abstract

Introduction: it has become clear in recent decades that psoriatic arthritis (PsA) is a much more aggressive than a delay in diagnosis was thought disease, can give the place a very crippling arthritis and lead to irreversible disability.

Objective: To evaluate the utility of the TOPAS and compared with the CASPAR criteria in patients with a diagnosis of psoriasis.

Methods: Patients diagnosed with psoriasis attending the dermatology consultation Vargas Hospital of Caracas. Never having seen a rheumatologist doctor.

Results: 16 patients with psoriasis, of which 56.25% (n = 9) were female and 43.75% (n = 7) male, mean age 52 ± 6 years. The most of them (56.2%) had plaque psoriasis and 11 of them (68.7%) with nail changes. Eleven (68.75%) had more than 8 points and only 3 of TOPAS they confirmed the diagnosis by a rheumatologist according CASPAR. The remainder had a TOPAS <8 and characterized by non-inflammatory cervical and lumbar pain, only three (3) patients had a family history of psoriasis in 1st degree relatives.

Conclusions: The application of the instrument is easy to use by dermatologists and has a high concordance with the CASPAR criteria, allowing to evaluate the clinical characteristics of the patients and early detection of patients with Psa.

Introduction

Psoriatic arthritis (PsA) is a progressive disease and aggressive, so that a delay in diagnosis and treatment of the disease can lead to an erosive arthropathy [1,2]. Although it is a heterogeneous disease, given by affecting skin, peripheral joints, axial involvement, the presence of autoantibodies (Ra Test, Anti CCP) even extra articular manifestations (uveitis, inflammatory bowel disease, etc.), many experts They have tried to separate from the rest of spondyloarthritis (Spa) even have the disease listed as bridges between Spa and rheumatoid arthritis (RA) [3,4].

Although only 30-35% of patients with psoriasis develop psoriatic arthritis some sort of [5,6], the risk is nine times higher in 1st degree relatives by blood, reducing to 6 families in 2nd Grade consanguinity [4-6], hence the importance of family aggregation in this pathology [7,8] shows, because these studies owning family history of psoriasis is included as diagnostic criteria in recent recommendations GRAPPA (Group for Research and Assessment of Psoriasis and Psoriatic Arthritis) [9].

This same group has undertaken to simplify the diagnostic criteria and the recommendations for treatment, but due to multisystem disease, has been difficult to measure the degree of damage and therefore to catalog or define remission psoriatic arthritis and the early diagnosis of the disease. For this reason, GRAPPA has developed three tools that have been validated cleavage to detect psoriatic arthritis in early stages of the disease. These questionnaires can be self-administered by the patient [10,11].

The first is the PASE (Psoriatic Arthritis Screening and Evaluation) was developed to help dermatologists detect patients with psoriasis who might benefit from referral to a rheumatologist but in no case is a diagnostic tool. A questionnaire consists of 15 questions divided into 2 groups, one refers to the symptoms of the disease and the other joint function. The pass also allows to identify those individuals with more severe forms of arthritis such as psoriatic arthritis variant mutilans [11,12].

The questionnaire Psoriasis Epidemiology Project (PEST) is a questionnaire developed from previous questionnaires Psoriatic Arthritis Questionnaire (PAQ) and modified PAQ, adding some questions and a body scheme for patients to locate areas affected by the disease. Questions concerning morning stiffness and joint pain have been more sensitive but less specific for the detection of PSA that reference the nail changes [13].

The third questionnaire and the only one validated Spanish is the TOPAS (Toronto Psoriatic Arthritis Screen) 14 questionnaire is a screening tool useful for patients with psoriasis Psa but has also been

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validated to be applied for the detection of PSA the general population [13] in the present study we tried to show that the questionnaire is easy to use and understanding in a query specialty dermatology [13,14].

Methods and patients

An observational cross-sectional study was performed for diagnostic evaluation, patients consulting psoriasis Hospital Dr Jose Maria Vargas, without criteria of psoriatic arthritis (PsA) were studied under the quota method (patients who attended the scheduled appointment day), each patient self-administered questionnaire (TOPAS) was applied during a day of regular consultation service (Annexes), which was subsequently evaluated (qualified) by the dermatologist doctors, then dermatologists they applied the criteria CASPAR to all patients who completed the TOPAS instrument. Afterwards both patients and both instruments were assessed by rheumatologist's medical experts in psoriatic arthritis, performing specialized rheumatology at the University Hospital of Caracas

Clinical evaluations

All patients were evaluated by a rheumatologist according to a standard protocol, including a complete history and physical examination, laboratory testing routine (full hematology and blood chemistry), acute phase reactants (ESR and Protein "C "Reactive), HLA B27, Anti CCP, rheumatoid factor (R-Test) and ANA (anti-nuclear antibody).

Imaging studies looked only conventional X-rays, which were carried out according to a standard protocol: for sacroiliac radiographs and oblique projection Ferguson was asked to hand radiographs were requested projections posterior-anterior (PA) and oblique to the images of the feet, the projections were anteroposterior (AP) and lateral, but X-rays were performed only if there was a clinical suspicion of arthritis (joint pain or back or limitation of movement, or the joint and/or deformities). Likewise, if there was no sacroiliitis on conventional radiography as New York criteria were asked not conventional radiology column.

Measurements and data collection

In dermatology specialist consultation (reference hospital nationally), we have two (2) expert dermatologists, who applied both instruments (Topas and CASPAR), then evaluating rheumatologists were 3 patients, but the majority (77%) They were carried out by a single rheumatologist. All assessors were trained by the same supervisor and the same method was used to evaluate patients.

DAS28 was used to assess peripheral joints, which was extended with the use of the method of LEI (Leed enthesis index) to assess the number of affected entheses.

Analysis

Statistical analyzes were performed using SPSS 17.0 software and software packages STATA 10.1. Continuous data with normal distribution are expressed as a measure (SD). The mean and standard deviation for continuous variables were calculated and in case of nominal variables frequency and percentage. Quantitative variables were compared with Student t test and in the case of nominal variables were compared with chi-square with Yates continuity correction, significant value was considered if $p<0.05$ and highly significant if $p<0.01$. ROC curves were constructed to compare both diagnoses (dermatologists vs rheumatologists) to investigate the association between the response, whether or not diagnosed as psoriatic arthritis, and other ROC curve for the 11 questions only excluding the question 12A, which asks if the patient had been diagnosed with psoriatic arthritis.

Both curves were constructed for both groups, including a model where the group of patients answered all the questions (not ceased to answer any). The second called logistic regression model based on domains (MRD) was constructed based on the three heaviest domain for diagnosis of APs (skin, joint and nails).

MRD: The alternative approach is based on the weight of the car questions TOPAS administered questionnaire, which passes through the evaluation of two groups of specialists who diagnose and treat the same disease but with different approaches. The three alternative weight or domains were: Skin, (Q1A, Q3 and Q4A), which are valued 0-3, 3 being the answer to all three questions, the other domain is the conjugate: Q5a, Q6 and Q10, which are valued 0-3.

The third domain is the nail weight domain, which includes questions or Q2B Q2A, which took the value of 1 if the answer be yes and 0 otherwise (uninominal variable).

The intraclass correlation coefficient (ICC) for tender joint count in PsA patients was 0.78 (95% confidence interval [95% CI] 0.61, 0.93) and for swollen joint count was 0.50 (95% CI 0.27 to 0.78).

Results

A total of 16 patients with psoriasis, of which 56.25% (n = 9) were female and 43.75% (n = 7) were included male, the average age of 52 ± 6 years (Table 1). 87.5% of the patients had type II psoriasis, most had plaque presentation (56.25%), while the group average by Body Surface Area classified as severe form of psoriasis (BSA 45-75%) 37.5.

All the patients were receiving biologic DMARDs, received only 20% synthetic DMARDs (disease modifying drugs), just as all patients received self-medication or topical skin and scalp treatment, usually they were based on corticosteroids or moisturizers. No patient received PUVA (Photodynamic Therapy with psoralen and ultraviolet radiation), or any other type of photochemotherapy. Over 30% of patients reported ever use of some NSAIDs merit (not prescribed by your physician).

Table 1. Demographic characteristics of the patients.

N=16	Number of Patients (%)
Female	9 (56,25)
Age (years)	52 ± 6
Kind of psoriasis	
I	2 (12,5)
II	14 (87,5)
Form of psoriasis	
Vulgar	3 (18,7)
Placa	9 (56,2)
Guttata	5 (31,2)
Reverse	1(6,2)
Affectation Ungueal	11 (68.7%)
BSA (%) +	
0-15 (Leve)	5 (31,2)
15-45 (Moderada)	4 (25)
45-75 (Grave)	6 (37,5)
>75% (Severa)	1(6,2)
NAPSI (0-160)	28 ± 6
DMARDs +	
Synthetics	4 (25%)
Biological	16 (100%
(+) BSA: Body Surface Area (*) DMARDS: disease modifying drugs	

Only three (3) patients had a family history of psoriasis in 1st degree of consanguinity.

Initial logistic regression

From a logistic model that incorporates (yes/no) for binary variables to the 12 questions and sub - parts Q1 to Q11, Q9 and Q12 casí excluded as subparts "b", because they exclude those who did not visit a doctor and implies a diagnosis who did attend, questions 7 and 8, were considered to be answered if and only if both pain and stiffness accompanied the inflammatory component, stressing that it is not secondary to injury.

Questions 9 and 10 associated with axial disease (cervical and lumbar) but not associated with injury, only Question 11 (Q11) correspond to the axial component according GSSE inflammatory (European Group for the study of spondyloarthritis). The estimated coefficients for selected variables were used to generate a score of discrimination, for the part linear predictor of the logistic model, minus the intercept term (Table 2).

Logistic regression based domains

Table 3 presents fitting a logistic regression when these three variables analysis of weight are included in the model. Variable three were high concordance (0.47), showing high sensitivity among dermatologists domain except joint which showed a $p > 0.05$, still more difficult for dermatologists, but not for rheumatologists.

Dermatologists 9 patients diagnosed with psoriatic arthritis according TOPAS and CASPAR (no differences), unlike the group of rheumatologists who only 3 were confirmed by CASPAR criteria (Table 3). One test showed positive for Ra by latex and nephelometry, the diagnosis was made by imaging and family history, as presented no involvement in Carpi, but if IFDs, one with spondylitic course was HLA B27 variant (+).

Discussion

The application of tools for the investigation of rheumatic diseases and especially for early detection of disease is very complex as it includes many variables some weight and some not, which have to confuse the respondent and even the general practitioner, the instrument TOPAS has proven to be easy to use for patients as well as for dermatologists, obtaining a high concordance with 7.13 CASPAR criteria.

In epidemiological studies of PAs have been hampered by the lack of tools to detect and because the PA is heterogeneous, there are variations very similar to the AR, another to spondylitic, there is even a variant SEN PSORIASIS, which may precede 5 -10 years before psoriasis lesions 3,5,8 appears. The CASPAR criteria are easy to use and understanding by the rheumatologist, but not by a dermatologist, as it includes two domains such as images and joints, weight variants that can confuse the doctor rheumatologist not related diseases such as osteoarthritis and/or fibromyalgia [13,14].

Therefore the development of a screening questionnaire would be useful for screening a large number of subjects to identify probable cases with APs. While this approach does not replace the need rheumatologist, help in identifying subjects for epidemiological studies and perhaps in identifying individuals who should be referred for rheumatology consultation [15,16].

This study is the first attempt to describe what are the variables that were shown to be higher compression by the dermatologist and which showed weakness or failure to administer. It has been proposed to introduce acute phase reactant (ESR / CRP) to help the physician not rheumatologist differentiate what the inflammatory forms of mechanical, however psoriasis alone is an inflammatory disease which may be increased reactants acute phase, without involving the patient develops APs [4,9,17]. The difference of this instrument (TOPAS) in comparison with other questionnaires is that images of dactylitis and onychodystrophy included, which are much visual support for the patient and the doctor does not entrenado [18]. But as every instrument is flawed in this case it is the evaluation of the entheses, recalling that the target organ is the entesial complex (SEC) [1,19,20].

Conclusion

The application of the instrument is easy to use by dermatologists and has a high concordance with the CASPAR criteria, enabling to evaluate the clinical characteristics of the patients and early detection of patients with PsA, CASPAR criteria proved to be unwieldy and compression by the dermatologist, since they include radiographic evaluation criteria and articulate, for which training merits.

Table 2. Logistic regression model starts.

	Estimated	Error Standard	p-value
Intercept	-7,46	1.09	<0.0001
Q1A	1.03	0.59	0.070
Q2A	0.85	0.41	0.052
Q4A	2.47	0.57	<0.0001
Q5A	3.04	0.94	0.001
Q6	1.91	0.41	<0.0001
Q8	0.76	0.40	0.060
Q10	2.33	0.70	0.001
Q11	-1.45	0.81	<0.0001
Residual desviance (df)	462.67		

Table 3. Logistic Regression by weight domains.

	Estimated	Error standard	p-value
Intercept	-8.21	0,74	<0.0001
domain Skin	1.31	0.18	<0.0001
Domain articulation	1.00	0.22	0.06
domain nail	1.72	0.20	<0.0001
Residual deviance (df)	156.17		

Table 4. Characteristics of patients with Aps.

N=3	Patient 1	Patient 2	Patient 3
Gender	M	M	F
age	58	47	31
CASPAR criteria Psoriasis	X		X
Personal Familiar	X	X	
nail dystrophy	X		X
FR Negative		X	X
dactylitis		X	X
radiology	X		X
variant	**polyarticular**	**spondylitic**	**oligoarticular**
DAS 28	2,67	3.67	5.15
ANA	(+)	(-)	(-)
Anti CCP	(+)	(-)	(-)
Ra Test (nephelometry)	(+)	(-)	(-)
HLA B27	(-)	(+)	(-)
VSG mm	70	12	25
PCR mg/dl	14,7	7,89	5,89

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