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SAT0307

LONG-TERM ASSOCIATION BETWEEN DISEASE ACTIVITY MEASURED BY ASDAS AND PHYSICAL FUNCTION IN A LARGE EARLY AXIAL SPONDYLOARTHRITIS COHORT

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Background: The Ankylosing Spondylitis Disease Activity Score (ASDAS) has been progressively replacing the Bath Ankylosing Spondylitis Disease Activity Score (BASDAI) as the main disease activity measure to assess patients with axial spondyloarthritis (axSpA), both in the research context as well as in clinical practice. However, further evidence is needed to show its meaningfulness regarding the longitudinal relationship with physical function.

Objectives: To study the long-term association between disease activity and physical function in axSpA.

Methods: DESIR is a prospective observational cohort of patients with recent onset (<3 years) inflammatory back pain, suggestive of axSpA. We analysed data collected during the first five years of follow-up and selected patients with a definite diagnosis of axSpA according to the treating rheumatologist. Physical function was assessed using the Ankylosing Spondylitis Health Assessment Questionnaire (HAQ-AS). Disease activity was measured using the ASDAS C-reactive protein (ASDAS-CRP) and BASDAI. In a first step, associations between HAQ-AS (dependent variable) and disease activity (defined by ASDAS or BASDAI), clinical and demographic variables were tested in univariable models. Multivariable models were then built adjusting for potential confounding factors found to be significant in the univariable analysis.

In a second step, additional multivariable analysis was conducted using the Chi-square Automatic Interaction Detector (CHAID) method, with HAQ-AS as dependent variable. The following independent variables were tested: ASDAS/BASDAI, enthesitis score, arthritis, employment status, gender, symptom duration, body mass index (BMI), HLA-B27 status, treatment with non-steroidal anti-inflammatory drugs (NSAID), conventional disease modifying anti-rheumatic drugs (cDMARD) and TNF-blockers. The final model fixed as criteria: 70 parent nodes and 20 child nodes to create new generations in the decision tree.

Results: Data from 644 patients and 4944 visits were analysed. There was a significant independent association between HAQ-AS and gender, employment status, peripheral arthritis, ASDAS-CRP/BASDAI, enthesitis, NSAID and anti-TNF treatment (Table 1). The decision tree revealed ASDAS as the first variable with discriminative power on HAQ-AS, according to the following cut points: 1.3, 2.2 and 2.4. In addition, for ASDAS values above 3.5 the model yield a higher number of

explanatory variables setting different patients' profiles regarding their functional status, namely: gender, anti-TNF and NSAID treatment. Notably, the ASDAS cut-offs that separated different patient profiles largely mimicked the cut-offs previously defined for ASDAS disease activity states (inactive, low, high and very high disease activity). According to this hierarchical model, gender, anti-TNF treatment and enthesitis score were the next variables explaining HAQ-AS variation, followed by employment status and NSAID treatment.

Conclusion: We have shown that disease activity contributes longitudinally to physical function and that it is hierarchically superior to any other variables or disease domains. Previously defined ASDAS-CRP disease activity categories identified different patient profiles on the hierarchical analysis.

REFERENCE

None.

Table 1. GEE models for HAQ-AS (dependent variable) in axSpA

Characteristics	Univariable analysis, OR (95% CI)	Multivariable analysis taking ASDAS-CRP into account, adjOR (95% CI)	Multivariable analysis taking BASDAI into account, adjOR (95% CI)**
Age, years	1.00 (1.00-1.05)	NA	NA
Male gender	0.73 (0.68-0.78)	0.82 (0.78-0.86)	0.84 (0.80-0.88)
BMI, Kg/m ²	1.01 (1.00-1.01)	*	*
HLA-B27 positive	0.84 (0.78-0.90)	*	*
Symptoms duration, years	0.98 (0.98-0.99)	*	*
Currently employed	0.95 (0.91-0.99)	0.95 (0.91-0.98)	0.95 (0.91-0.98)
Current smoker	1.01 (0.98-1.05)	NA	NA
Peripheral arthritis	1.21 (1.13-1.30)	1.10 (1.04-1.16)	1.09 (1.03-1.16)
ASDAS-CRP	1.26 (1.24-1.29)	1.25 (1.23-1.27)	NA
BASDAI	1.01 (1.01-1.01)	NA	1.01 (1.01-1.01)
Enthesitis score (0 to 39)	1.02 (1.02-1.03)	1.01 (1.01-1.02)	1.01 (1.01-1.01)
Modified NY criteria	0.95 (0.89-1.01)	NA	NA
MRI sacroiliitis	1.01 (0.96-1.07)	NA	NA
msASSS score	0.99 (0.98-1.01)	NA	NA
NSAIDs (last 6 months)	1.13 (1.09-1.16)	1.03 (1.01-1.06)	1.03 (1.01-1.06)
cDMARDs (last 6 months)	1.09 (1.03-1.14)	*	*
TNF-blocker (last 6 months)	0.92 (0.88-0.96)	1.07 (1.03-1.11)	1.04 (1.01-1.08)

* Not selected for this model; NA – not applicable; ** Model adjusted with the cofactors considered significant in the proposed multivariable model for ASDAS (previous column)

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SAT0308

CLUSTER-BASED SPONDYLOARTHRITIS PHENOTYPES DEFINED AT BASELINE ARE PREDICTIVE OF 5-YEAR SEVERITY OUTCOME IN THE DESIR COHORT

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Background: The course of axial spondyloarthritis (SpA) is heterogeneous, varying from mild to severe and remains to be better defined. DESIR is a French cohort of early undifferentiated axial SpA that are longitudinally followed-up, offering such opportunity. We recently performed a cluster analysis in the DESIR cohort, according to baseline characteristics and identified 2 clusters: one characterized by an isolated axial disorder (A for axial) and one by additional high frequency of peripheral