POS1009

ASYMPTOMATIC ENTHESITIS AND DOMINANT SIDE RELATED PATTERNS IN SPONDYLOARTHRITIS – THE ROLE OF ULTRASONOGRAPHY IN EVERYDAY PRACTICE

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Background: The spondyloarthritis (SpA) family includes a heterogeneous spectre of inflammatory diseases with several common features, such as the axial and peripheral joint involvement, but also trigger factors, as for instance, mechanical stress, infectious diseases or gut dysbiosis.[1,2]

Enthesal inflammation is the common background in the pathogenesis of SpA, leading to osteitis, periostitis and osteoproliferation. Despite being a central feature in SpA, enthesitis remains underdiagnosed in everyday practice.[3,4]

Objectives: The primary objective is to assess the frequency of ultrasound versus clinically detected enthesitis in a sample of Romanian patients with highly active SpA. A secondary objective is to determine the existence of an enthesitis pattern according to the dominant side in this sample of patients.

Methods: Out of 140 SpA patients, 106 were diagnosed with axial/peripheral SpA and 34 with psoriatic arthritis (PsA), and were clinically (medical history, clinical examination) evaluated, scanned using MSUS during the same visit, then asked which was their dominant side, in order to avoid any biases. The evaluation targeted 16 enthesal sites (Achilles tendon, plantar fascia, quadriceps tendon, proximal and distal patellar tendon, triceps tendon, extensor and flexor tendons of the hand, all evaluated on both sides), reaching a total of 2240 entheses. The medical history form included questions related to present or past spontaneous pain in any of the 16 evaluated sites as well as the clinical examination that evaluated the enthesal pain upon pressure (digital pressure on the entheses overlying skin).

The MSUS evaluations were conducted using Esaote My Lab machines with 6-12/8-18 MHz linear probes. The same clinician/ultrasonographer performed all evaluations, in order to avoid interobserver variability.

Results: In the studied sample of patients, 68.6% were men, had a mean age of 43.46 (+/- 11.77), 51.4% were diagnosed with peripheral SpA, with a mean disease duration of 61.60 (+/- 71.03) months, and enthesal abnormalities were found in up to 62.7% of the asymptomatic entheses, lacking both spontaneous and elicited pressure pain.

The best performance of clinical and ultrasound examination was observed in the evaluation of the flexor tendons of the hand, with strong agreement between the two methods (kappa = 0.718, p = 0.001). Conversely, the lowest performance of clinical and ultrasound examination was noticed in Achilles (kappa = 0.292, p = 0.001) and distal patellar tendons (kappa = 0.202, p = 0.001), with low agreement indices. Both GS and PD abnormalities were more frequently detected on the right side, in a sample of 98.57% right handed patients. The differences were higher regarding the insertions of the triceps tendon (2.2%) and the plantar fascia (2.1%), in favour of the dominant side.

Conclusion: Enthesal reported pain (spontaneous and elicited by pressure) correlates poorly with MSUS detected enthesitis. This study highlights the high rates of imaging detected, but clinically overlooked enthesal abnormalities in SpA patients. Enthesitis was more frequently detected on the dominant side, emphasizing the role of mechanical stress in the pathogenesis of this feature. This outcome also requires the selection of the most reliable enthesal sites for SpA, being a future direction of research for this ongoing study.

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POS1010

PREDICTING CARDIOVASCULAR EVENTS IN PATIENTS WITH SPONDYLOARTHRITIS: 3 RISK ALGORITHMS

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Background: In the most recent European League Against Rheumatism (EULAR) cardiovascular risk reduction recommendations¹, the use of the SCORE algorithm has been advocated as a useful tool to identify an increased 10-year cardiovascular risk of first fatal atherosclerotic event. Even though validated inflammatory disease-specific CV risk score algorithms are still lacking, the EULAR task force advocated the use of a 1.5 multiplication factor for RA, but not clear for other inflammatory diseases.

Objectives: To assess the accuracy of several CV risk algorithms to predict an event and determine its sensibility and specificity.

Methods: A retrospective analysis of Spondyloarthritis (SpA) patients, registered in REUMA.PT, followed in two Portuguese centres was done. We calculated risk prediction algorithms such as Framingham, the American College of Cardiology/ American Heart Association (ACC/AHA) risk score and the Systematic Coronary Risk Evaluation (SCORE) for low-risk countries. The adaptation of risk algorithms was done, accordingly to EULAR recommendations. Primary outcome was the first CV event. Discriminatory ability for CV risk prediction was evaluated by the area under the ROC curves. Sensibility and specificity were calculated for low-to-intermediate and intermediate-to-high risk cut-offs. Cut-off values of high risk were defined in 5% for SCORE, 20% for Framingham and ACC/AHA.

Results: 362 patients with SpA were included, 53.9% male (195), with a mean age of 51.1 ± 12.7 years. 67.8% of the patients were HLA B27 positive. Overall, the mean BMI was 26.3 ± 4.4 Kg/m² and 24.0% of the patients (87) were smokers in their lifetime. The mean of systolic blood pressure was 130 ± 16.4 mmHg, diastolic blood pressure of 73.5 ± 10.4 mmHg, total cholesterol of 190.1 ± 37.2 mg/dL and high-density lipoprotein cholesterol of 53.0 ± 14.8 mg/dL. Anti-hypertensive medication was reported in 24.3% of the patients, cholesterol medication in 19.3% and antidiabetic medications in 6.1%. Twenty-five patients (6.9%) presented a cardiovascular event. Patients with a cardiovascular event were older, with higher BMI, prescribed with medication for CV comorbidities and higher diastolic and systolic blood pressure (p<0.05).

Patients were under biologic therapy in 30.9% (112), 16.9% (61) with methotrexate; 16.3% (59) with sulfasalazine and 2.8% (10) with leflunomide; 68.5% (248) prescribed with NSAID and 10.8% (39) with corticosteroids. Area under the ROC in original and adapted scores were equal: 0.709 (95% CI 0.598 to 0.819) for SCORE, 0.805 (95% CI 0.737 to 0.872) for Framingham and 0.776 (95% CI 0.695 to 0.857) for ACC/AHA (Figure 1).

Figure 1. ROC curves for SCORE, Framingham and ACC/AHA

SCORE>1% showed the best sensitivity (96%) but lower specificity. Framingham>20% presented the best specificity (80%) with lower sensitivity (61%). In all cases, specificity raises with higher cut-off with corresponding reduction in sensitivity. (Table 1)

Table 1. Sensibility, specificity, positive predictive value (PPV) and negative predictive value (NPV) of CV risk algorithms

	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)
SCORE > 1%	96	29	12	99
SCORE > 5%	54	78	20	94
Framingham >10%	78	63	15	97
Framingham >20%	61	80	21	96
ACC/AHA >5%	82	55	16	97
ACC/AHA >20%	32	86	20	92

Conclusion: A good discrimination between patients with or without CV events has been demonstrated by area under the ROC curve. The adaptation of CV risk algorithms according EULAR recommendations did not provide an improvement in discriminative ability. Overall, the algorithms studied presented a low sensibility or specificity. Better algorithms are needed to correctly assess cardiovascular risk for SpA patients and they should take into consideration the risk associated with the disease.

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