Utility of an ultrasound enthesitis score as a complementary diagnostic tool to detect psoriatic arthritis in patients with psoriasis.

Tomas Cazenave, Christian Waimann, Gustavo Citera, Marcos Rosemffet.
Instituto de Rehabilitación Psicofísica, Rheumatology Section,Buenos Aires, Argentina.

Objective: to evaluate the prevalence of subclinical enthesopathy in psoriasis (Ps) patients compared with psoriatic arthritis (PsA) and healthy controls (HC), and to assess the utility of an ultrasound enthesitis score as a complementary diagnostic tool to detect PsA in patients with Ps.
Methods: We designed a cross-sectional study including patients with diagnosis of Ps (dermatologist criteria), PsA (CASPAR criteria) and HC. Each subject underwent clinical and ultrasonographic evaluation. Ultrasound evaluation was performed by two rheumatologists who were blind to clinical examination. Ten enthesal sites were evaluated: bilateral quadriceps tendon, proximal and distal patellar ligament, Achilles tendon and plantar aponeurosis. Ultrasonographic enthesopathy (UE) was defined as the presence of at least one of the following characteristics: thickening, erosion, enthesophytes and/or bursitis. The Glasgow Ultrasound Enthesitis Scoring System (GUESS) was calculated, with ranged from 0 to 36, being 36 the highest involvement. The performance of the score to discriminate between PsA and Ps was evaluated using ROC's curve. An alternative model was tested, evaluating the addition of Power Doppler (PD) assessment to the GUESS. Differences among groups were compared using Pearson's chi-squared test and Kruskal Wallis. Post hoc analysis was adjusted by Bonferroni method. P value of 0.05 was considered statistically significant.
Results: We included 51 subjects: PsA=16, Ps=15 and HC=20. Mean age was 42±13 years and 39% were female. Mean cutaneous and joint disease duration were 17±13 and 5±7 years, respectively. Half of PsA patients presented clinical enthesopathy compared with none in the other groups. A total of 510 enthesal sites were evaluated (PsA=160, Ps=150, HC=200). UE was present in 291 (57%) sites versus only 13 (3%) using clinical examination. Ps patients showed UE in 98 (65%) enthesal sites. Tendon's thickening was present in 25%, enthesophytes 43%, Bursitis 5%, Erosion 9% and Power Doppler 7%. All patients with Ps showed at least one enthesal site affected on ultrasound evaluation. None of these sites were positive on clinical examination. When comparing with PsA and HC, Ps patients showed significantly less thickning and enthesophytes than PsA, and a significantly higher frequency of enthesophytes, erosions and PD than HC. Mean GUESS score were different across the groups: PsA= 13±4, Ps=8±4, HC=3±2 ($p<0.01$). The area under the curve (AUC) for the diagnosis of PsA was 0.79 (95%CI= 0.63 to 0.95). A cutoff point >=8 showed a sensitivity and specificity of 94% and 60%, respectively [Likelihood ratio (LR) + 2.34; LR- 0.1]. The addition of PD did not have a significant impact on the discriminant ability of the score (AUC 0.78, 95%CI= 0.62 to 0.95).
Conclusions: All patients with psoriasis showed subclinical enthesopathy on ultrasonographic evaluation. The GUESS showed a high sensitivity and moderate specificity to discriminate between patients with PsA and Ps. This score may be useful as a complementary diagnostic test for early detection of joint and enthesal involvement in patients with psoriasis.