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Background: Psoriatic arthritis (PsA) is a chronic inflammatory arthropathy affecting 6–30% of patients with skin or nail psoriasis. If PsA is not identified early and managed appropriately, progressive joint damage with deformities and disability may occur. Preliminary efforts to develop screening tools for the identification of PsA have met with variable success. Whether the tools function well or not in Chinese patients remains unknown.

Objectives: We aimed to validate and compare the performance of 4 PsA screening tools in Chinese psoriasis patients.

Methods: Consecutive psoriasis patients (dermatology cohort) attending dermatology clinics without previous diagnosis of inflammatory arthritis and consecutive newly diagnosed PsA patients (rheumatology cohort) attending rheumatology clinics were invited to complete the questionnaires: early arthritis for psoriatic patients (EARP), psoriatic arthritis screening and evaluation (PASE), psoriasis and arthritis screening questionnaire (PASQ), and psoriasis epidemiology screening tool (PEST). Receiver operating characteristic (ROC) curves were utilized to calculate diagnostic accuracy, least absolute shrinkage and selection operator (lasso) and binary logistic regressions to identify the most discriminative questions.

Results: In this multicenter study, 379 patients in the dermatology cohort and 72 in the rheumatology cohort were recruited. In the dermatology cohort, 7.9% (30/379) were newly diagnosed with PsA. The EARP and PASQ tools demonstrated better discriminating ability for identifying PsA from psoriasis patients (yielded sensitivities/specificities were: 93.3%/92.3% and 90.0%/90.5%, while optimal cut-off values were 3 and 5, respectively) and the good performance of EARP and PASQ was further confirmed in the rheumatology cohort. However, all these tools demonstrated low sensitivities (about 30%) with regard to screening the axial PsA. Based on the questions, a risk prediction model of PsA was established.

Conclusion: The prevalence rate of undiagnosed PsA in the patients with psoriasis is 7.9%. Both EARP and PASQ tools show better favorable trade-off between sensitivity and specificity than PASE and PEST; while all the 4 tools are not sensitive to identify axial PsA.

References:

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Background: Epigenetic factors such as non-coding RNA (miRNA) have been shown to be deregulated in Systemic Lupus Erythematosus (SLE). In particular, in mouse model (1), different miRNAs have been associated with lupus nephritis (LN), one of the most severe manifestations of the disease.

Objectives: The aim of the study was to evaluate the expression of miR-155 and miR-34a in renal tissue as biomarkers of organ involvement and inflammatory tissue activity in patients with LN.

Methods: Thirty-two LN patients with active renal involvement were enrolled (age: 32.2 ± 9.2 years). The nephritic onset of the disease (early-SLE) was present in 13 patients (41%), while 19 patients (59%) showed a renal involvement during the follow-up (long-SLE). Clinical, laboratory and demographic data were collected for each patient. Disease activity was recorded using SLEDAI-2K and renal activity, using the total SLEDAI-2K fraction including the items related to the renal involvement. Ultrasound-guided renal biopsy has been performed for each patient for the definition of the nephritic class according to the ISN / RPS classification of 2003 revised in 2018(2). The expression of miR-155 and miR-34a in renal tissue was carried out by extraction of total RNA from paraffin-preserved biopsies and after a retrotranscription protocol was evaluated using SYBR® Green-based real-time PCR by relative quantification considering the ΔCt (Ct miRNA- Ct housekeeping gene)(3).

Results: Mir-155 and miR-34a expression in renal tissue were comparable in the different histological classes. Dividing patients on the base of nephritic onset, patients with early SLE showed lower expression of miR-155 (ΔCt 12.8 ± 10.8) and miR-34a (ΔCt 9.7 ± 10.9) than patients with long-SLE (ΔCt 6.1 ± 8.7 p = 0.02; miR-34a: ΔCt 7.1 ± 9.0 p = 0.03). Furthermore, a direct correlation was observed between the expression of miR-155 and miR-34a (r = 0.91, p <0.001). Considering patients with early-SLE, the expression of miR-34a was slightly significant in patients who had relapsed (ΔCt 8.2 ± 11.4 vs ΔCt 18.4 ± 2.9 p = 0.08), although no correlation emerged between the expression of miR-155 and miR-34a both at the time of the biopsy and with the disease activity indices. At the histological evaluation, expression of miR-155 and miR-34a were more expressed in Early-SLE patients who had wide loop lesions (miR-155: ΔCt 19.5 ± 7.7 vs ΔCt 7.3 ± 9.6 p = 0.05; miR-34a: ΔCt 21.7 ± 1.1 vs ΔCt 8.8 ± 9.7 p = 0.05) possibly associated with a greater activation of the inflammatory component.

Conclusion: Mir-155 and miR-34a may represent tissue biomarkers of inflammatory activity in patients with LN in particular the higher expression of these miRNA in Long-SLE patients could indicate a possible role of these biomarkers in renal involvement in patients with SLE with later renal onset. The increased expression of miR-34a could give indications of a disease recurrence suggesting a closer monitoring of the patient.

References:
[1] Leiss H et al. Plosone 2017

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BIOMARKER ANALYSIS FROM THE RISE-SSC STUDY OF RIOCIUGAT IN EARLY DIFFUSE CUTANEOUS SYSTEMIC SCLEROSIS (DCSSC)

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Background: RISE-SSc (NCT02283762) was a multicenter, double-blind, Phase IIb study of riociguat in early dcSSc. Primary endpoint was change in mRSS from baseline to Wk 52.

Objectives: Explorative, descriptive analyses of riociguat target engagement and effects on disease biomarkers in RISE-SSc and their relationship with effects on the primary endpoint. All biomarker p-values are for information only.

Methods: Pts with dcSSc (duration ≤18 mo; modif Rodnan skin score [mRSS] 10–22 units) were randomized to riociguat 0.5–2.5 mg tid (n=60) or placebo (n=61). Biomarkers of target engagement (cGMP), inflammation and/or vascularendothelial function (e.g. high-sensitivity C-reactive protein [hsCRP], soluble platelet endothelial cell adhesion molecule 1 [sPECAM-1], soluble E-selectin, chemokine ligand 4 [CXCL-4]), and fibrosis (e.g. alpha-smooth muscle cell actin [alphaSMA], pro-collagen mRNA expression) were measured in plasma, serum, and skin biopsies at baseline and Wk 14.

Results: MeansΔ change from baseline in mRSS was −2.09±5.66 (n=57) with riociguat and −0.77±8.24 (n=52) with placebo (p=0.08). From baseline to Wk 14, plasma cGMP rose by mean (SD) 96% (78%) (n=52) with riociguat and 10% (39%) (n=52) with placebo (nominal p<0.001). Serum sPECAM-1 and CXCL-4 fell with riociguat vs placebo; changes in hsCRP or E-selectin differed little between groups (Fig 1). Pts with higher baseline sPECAM-1 showed larger mRSS reductions with riociguat vs placebo than pts with lower levels (nominal interaction p=0.004). In baseline skin biopsies, 34% and 31% of pts in the riociguat and placebo groups, respectively, had no alphaSMA-positive cells; other pts had +ve cells (alphaSMA counts 0.1–99.5, median 2.5), a potential indicator of higher disease activity. Pts with +ve baseline alphaSMA showed a reduction of mRSS with riociguat vs placebo (Fig 2). Skin collagen mRNA expression biomarkers in skin biopsies showed no differences between groups.

Conclusion: Primary study endpoint (change in mRSS) was not met. Plasma cGMP rose with riociguat, confirming engagement with the NO-endoC-gGMP pathway. Serum sPECAM-1 (marker of endothelial activation) and CXCL-4 (marker of progressive SSC) fell with riociguat; hsCRP and E-selectin did not. Some serum and skin biomarkers of higher disease activity at baseline were associated with a greater effect of riociguat on skin fibrosis.

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