

**Conclusion:** Here we show that MDA-autoreactive B cells with features of T-cell driven affinity maturation are present in the gum mucosa of PD patients with or without RA. Moreover, that antibodies from one such clone can exacerbate arthritis. Further studies are needed in order to elucidate the mechanisms involved, and to determine if possibly enhanced TNF production via antibody-mediated modulation of macrophage responses could play a role. Taken together, this pilot study supports further research into MDA-autoimmunity as an etiological link between periodontal infection and RA.

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## Contemporary clinical topics in psoriatic arthritis

POS0019

### PREDICTION OF PSORIATIC ARTHRITIS TOOL (PRESTO): DEVELOPMENT AND PERFORMANCE OF A NEW SCORING SYSTEM FOR PSORIATIC ARTHRITIS RISK

**Keywords:** Epidemiology, Spondyloarthritis, Psoriatic arthritis

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**Background:** A simple, scalable tool that identifies psoriasis patients at high risk for developing psoriatic arthritis (PsA) could improve early detection and facilitate early intervention for this condition. However, no such prediction tool currently exists.

**Objectives:** Our overall objective is to develop an accurate risk prediction model for the development of PsA and to assess its performance among patients with psoriasis.

**Methods:** In this longitudinal cohort study we analyzed data from the International Psoriasis and Arthritis Team (IPART) study, a prospective cohort of psoriasis patients without PsA at the time of enrollment. The participants were followed prospectively from 2006 to 2019, and their PsA status was assessed annually by a rheumatologist. Information about their demographics, psoriasis characteristics, co-morbidities, medications and musculoskeletal symptoms was used to develop prediction models for PsA. Penalized binary regression models were used for variable selection while adjusting for psoriasis duration; the stacked LASSO with equal weights was adopted to deal with multiple imputed datasets for incomplete data. Risks of developing PsA over 1- and 5-year time horizons were estimated. Internal validity was assessed using 5-fold cross-validation. Model performance was assessed by the area under the curve (AUC), and calibration plots.

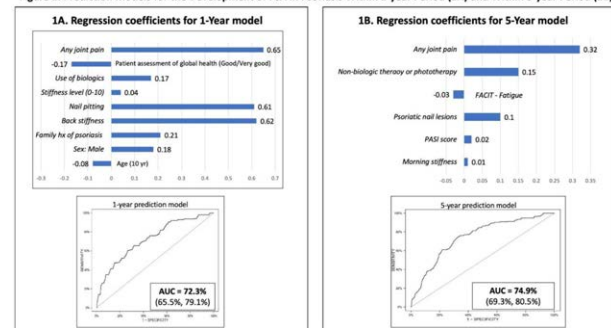
**Results:** A total of 635 psoriasis patients were analyzed (mean duration of follow up 7.7 years). 51 and 71 patients developed PsA during the 1-year and 5-year periods, respectively. The risk of developing PsA within 1 year was associated with younger age, male sex, family history of psoriasis, back stiffness, nail pitting, level of stiffness, use of biologic medications, patient global assessment of health and pain severity (AUC 72.3, 95% confidence interval (CI) 65.5, 79.1, Figure 1A). The risk of developing PsA within 5 years was associated with morning stiffness, psoriatic nail lesion, psoriasis severity (by PASI), fatigue severity (by FACIT-fatigue), pain severity and use of systemic non-biologic medication or phototherapy (AUC 74.9, 95% CI 69.3, 80.5, Figure 1B). Calibration plots showed reasonable agreement between predicted and observed probabilities. The sensitivity and specificity for a 2.5% probability of PsA onset within 1 year were 54.5% and 75%, respectively. The sensitivity and specificity for a 5% probability of PsA onset within 5 years period were 61.1% and 77%, respectively.

**Conclusion:** The development of PsA within clinically meaningful time frames can be predicted with reasonable accuracy for psoriasis patients. Additional work is underway to validate these models in external cohorts of psoriasis patients.

#### REFERENCE:

- [1] The calculator can be found in the URL: [http://142.1.174.73:9080/Web\\_KC](http://142.1.174.73:9080/Web_KC)

Figure 1: Prediction Models for the Development of PsA in Psoriasis Within 1-year Period (1A) and Within 5-year Period (1B)



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POS0020

### DOES SUBJECTIVELY PERCEIVED LOSS OF HAND FUNCTION SUFFICIENTLY REPRESENT ULTRASONOGRAPHY-DETECTED SYNOVITIS AND TENOSYNOVITIS IN PATIENTS WITH PSORIASIS AND PSORIATIC ARTHRITIS?

**Keywords:** Patient reported outcomes, Ultrasound, Psoriatic arthritis

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**Background:** In the clinical routine patient reported outcome measures (PROMs) such as the 'Disability of the Arm, Shoulder and Hand Questionnaire' (Quick-DASH) [1], 'Score for the Assessment and quantification of Chronic Rheumatic Affections of the Hands' (SF-SACRAH) [2] and the 'Health Assessment Questionnaire' (HAQ) [3] are common for assessing functional status and hand involvement in rheumatic diseases [4] while ultrasonography (US) is a cost-effective, reliable imaging technology for grading and monitoring synovitis and tenosynovitis [5]. However, it is unclear, if subjective perceived impairment can be associated with US-detected synovitis or tenosynovitis in patients with psoriatic arthritis (PsA) and psoriasis (Pso).

**Objectives:** To correlate subjective hand function with the grade of synovitis and tenosynovitis by US (greyscale (GS), power Doppler (PD) activity) in patients with PsA and Pso.

**Methods:** PsA and Pso patients recruited from the Rheumatology Department at the University Hospital Erlangen were enrolled in this cross-sectional study after giving written informed consent. Patients completed the HAQ-DI, SF-SACRAH and Quick-DASH questionnaires and subject characteristics (age, sex, disease) were recorded. The examining physician performed a bilateral US (Samsung HS40, South Korea; Esaote Mylab Twice, Italy) of the flexor tendons of all fingers and metacarpophalangeal (MCP) joints 2-5 and both wrists. Each joint was examined by GS (score 0-3) and PD (score 0-3) and flexor tendons were scanned in GS (0/1) and with PD (0-3) following the EULAR-OMERACT scoring system [5]. For statistical analysis patients with either a positive synovitis or tenosynovitis score  $\geq 1$  were included. A repeated measure correlation analysis was performed, at the intra-individual level, to measures the overall