

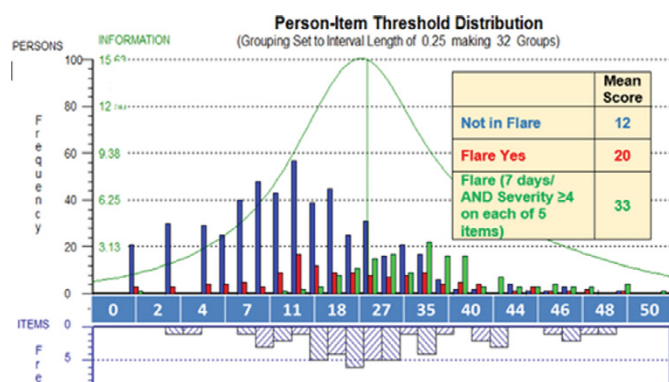
⁶Universite de Lorraine, Nancy, France; ⁷Maartens Kliniek, Nijmegen, Netherlands; ⁸Schlosspark Klinik, Berlin, Germany; ⁹Parker Institute, Copenhagen, Denmark; ¹⁰Cardiff University, Cardiff, United Kingdom; ¹¹UCLA, Los Angeles, United States; ¹²University of the West of England, Bristol, United Kingdom; ¹³Healthy Motivation, Santa Barbara, United States; ¹⁴University of Sydney, Sydney, Australia

Background: Disease flares in RA are common. The RA Flare Questionnaire (RA-FQ) can be used to identify and quantify flares in rheumatoid arthritis (RA).

Objectives: To further explore the psychometric properties RA-FQ, we used Rasch analysis and reviewed results with RA patients research partners (PRPs) and clinicians to gain additional insight into the interpretability, meaningfulness, and utility of results.

Methods: People with RA in observational trials in Canada (CATCH; n=896) and France (STPR; n=138), and an RCT in the Netherlands (n=178) completed the RA-FQ. RUMM2030 was used to evaluate unidimensionality, targeting of items to people, reliability, response options, redundancy, local dependence, and response bias by sex, across age categories, and by country/language. ROC curves were used to identify sensitivity and specificity across potential threshold values to identify flares in different contexts of use. We reviewed results with RA patients research partners (PRPs) to gain additional insight into the interpretability, meaningfulness, and utility of results. Ten PRPs first completed the questionnaire then reviewed individual and group findings to provide feedback. RA clinicians provided feedback on utility and relevance of proposed cut points to identify flares.

Results: Rasch results supported the simple summation of items for a total score ranging from 0–50. Each item had ordered thresholds and acceptable fit. Reliability, was high (PSI =.91). Items and people covered a continuum ranging from -3.2 to +3.4 logits, and items were well-targeted to respondents. Overall model fit was excellent ($\chi^2=31.6$, $df=45$; $p=0.935$). There was little evidence of differential item functioning by sex, age, or country/language. Items suggest flare symptoms and impacts increased together showing a consistent story of how individuals experience worsening RA disease activity. Among PRPs, scores ranged from 10 to 41. There was unanimous agreement from the patients that the story depicted and individual results obtained were easily understood, meaningful, and very reflective of their current state. Many patients noted that beyond clinical trials, the RA-FQ could also enhance communication between doctors and patients at routine visits. Several noted potential applicability in monitoring day-to-day status and with self management. Thresholds for clinically important worsening to identify flare varied by setting, patient population, and context of use.



Conclusions: Taken together, results from classical and Rasch analyses support for the robust psychometric properties of the RA-FQ. The 5-item measure is easy to complete and simple to score. Feedback from RA PRPs and clinicians increase confidence in the relevance, meaningfulness, and easy interpretation of RA-FQ results for clinicians, researchers, and patients.

Disclosure of Interest: None declared

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SAT0133 SUDOMOTOR DYSFUNCTION IN RHEUMATOID ARTHRITIS PATIENTS IN THE ABSENCE OF TRADITIONAL CARDIOVASCULAR RISK

T. Syngle¹, S. Kaur², I. Verma³, A. Syngle⁴. ¹#547, Sector 16D, Chandigarh, India, Healing Touch Foundation, Chandigarh, India; ²Cardio-Rheuma & Healing Touch City Clinic, Chandigarh; ³Maharishi Markandeshwar College of Pharmacy, M.M University, mullana; ⁴Cardio-Rheuma & Healing Touch City Clinic and Fortis Multi Specialty Hospital, Chandigarh, India

Background: Rheumatoid arthritis (RA) is an autoimmune chronic inflammatory disease associated with cardiovascular autonomic neuropathy. Cardiovascular autonomic neuropathy is a significant risk predictor for sudden cardiac death in rheumatoid arthritis.¹ Sudomotor dysfunction reflects small fibre neuropathy, cardiovascular autonomic neuropathy and peripheral sympathetic autonomic neuropathy.² However, sudomotor dysfunction and its relationship with inflammatory measures remain unexplored in RA patients in the absence of traditional cardiovascular (CV) risk factors.

Objectives: The aim of present study was to assess the sudomotor function and its association with disease specific measures: ESR, CRP and DAS-28 in RA patients with no apparent conventional cardiovascular risk factor.

Methods: In this cross-sectional study, 60 RA patients fulfilling 2010 Rheumatoid Arthritis Classification Criteria³ and 40 age and sex-matched healthy controls were recruited. Sudomotor function was assessed using Sudoscan (Impeto Medical, Paris, France) through measurement of electrochemical skin conductance of hands and feet.² Sudoscan investigates the sweat gland activity and used as a surrogate to study the damage of sympathetic sudomotor nerves in neuropathy. It is an indirect assessment tool of sudomotor function. Inflammatory measures such as ESR and CRP and DAS-28 (disease activity score in 28 joints) were determined.

Results: Rheumatoid arthritis patients had significantly impaired sudomotor function (56.90 ± 12.95 vs. 76.15 ± 8.45 μs , $p < 0.00$, Figure 1A), elevated ESR (31.30 ± 12.34 vs. 16.72 ± 4.46 , $p < 0.001$) and CRP (10.55 ± 3.81 vs. 3.81 ± 1.03 , $p = 0.002$) as compared to healthy controls, respectively. The mean disease duration of RA patients was 9.15 ± 5.76 and they had high disease activity (mean DAS-28, 4.60 ± 1.72). Sudomotor function was found to be inversely correlated with ESR ($r = 0.42$, $p = 0.001$, Figure 1B), CRP ($r = 0.60$, $p < 0.001$, Figure 1C) and DAS-28 ($r = 0.38$, $p = 0.003$, Figure 1D).

Fig. 1A. Comparison between sudomotor function RA patients and healthy controls

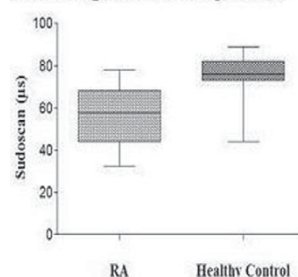


Fig. 1B. Inverse correlation between sudomotor function and ESR

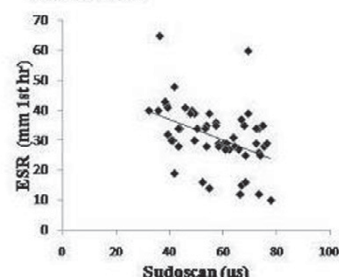


Fig. 1C. Inverse correlation between sudomotor function and CRP

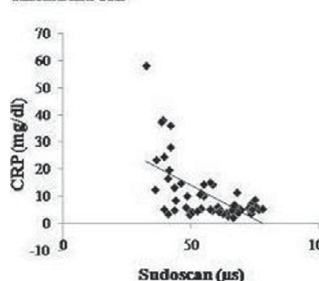
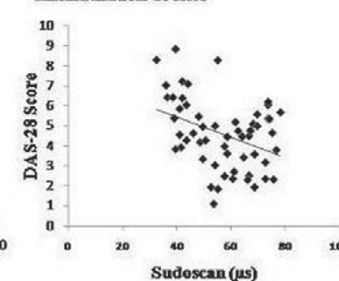


Fig. 1D. Inverse correlation between sudomotor function and DAS-28 score



Conclusions: Cardiovascular autonomic neuropathy occurs in RA in the absence of traditional CV risk factors. Sudomotor dysfunction is significantly associated with increased level of ESR, CRP and disease activity suggesting that increased inflammation may cause sudomotor dysfunction.

References:

- [1] Milovanovic B et al. Srp Arh Celok Lek 138:26–32.
- [2] Mayaudon H et al. Diabetes Metab. 2010;36:450–54.
- [3] Aletaha D et al. Arthritis Rheum. 2010;62:2569–81.

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SAT0134 DAILY MONITORING OF ARTERIAL STIFFNESS IN WOMEN WITH RHEUMATOID ARTHRITIS

T.A. Romanova, N.M. Nikitina, A.P. Rebrov. Hospital Therapy Department, State Medical University of Saratov, Saratov, Russian Federation

Background: Patients with rheumatoid arthritis (RA) have an increased risk of cardiovascular (CV) disease. Monitoring of arterial stiffness could be used as an additional tool of cardiovascular risk assessment.

Objectives: of the study is to evaluate the main parameters daily monitoring of arterial stiffness (DMAS) in women with rheumatoid arthritis with or without arterial hypertension (AH).

Methods: DMAS was measured in 63 women with RA (ACR 1987 and/or EULAR/ACR 2010 criteria). The first group involved 39 RA female patients with AH (mean age – 58.3 ± 6.08 years; median of RA duration - 8 [4; 14] years, median of DAS 28- 5.08 [4.04; 5.85]), the second group included 24 women with RA without AH (mean age 55 ± 7.15 years; duration of RA is 10 [3; 17] years, mean DAS 28 – 5.25 [4.6; 5.7]).

30 women with AH without RA and other joint diseases and 22 healthy females were involved as a controls. Persons with and without RA were comparable