have the significant upregulation of TLR3, TLR7, MDA5, RIG-1 sensors as well as IFR7, STAT1, MxA, ISG15 genes. And skin biopsies from anti-MDA5 DM patients were characterised by strong expression of STAT1, MxA, ISG15 proteins. Furthermore, overexpression of plasma BAFF was observed in anti-MDA5 DM patients. BAFF level was showed to be positively correlated with IFN-a level. Additionally, BAFF level, synergizing with IFN-a, was of great relevance to KL-6 in anti-MDA5 DM patients with higher plasma IFNa concentration.

Conclusions: Our data suggest that aberrant activation of the type I IFN system associated with BAFF may be implicated in the pathogenesis of ILD in anti-MDA5 DM. The discovery may drive the development of new therapeutic strategies for the type of DM patients.

REFERENCES:

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Disclosure of Interest: None declared


A VALIDATION OF THE 2017 EULAR/ACR IDIOPATHIC INFLAMMATORY MYOPATHIES CLASSIFICATION CRITERIA IN AN EXPERT-DEFINED SINGLE-CENTRE TEN YEAR INCIDENT COHORT

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Background: The recently published 2017 European League Against Rheumatism (EULAR) and American College of Rheumatology (ACR) classification criteria for adult and juvenile idiopathic inflammatory myopathies (IIM) and their major subgroups reflect a long-anticipated need for more accurate case definition in ongoing research in these complex and heterogeneous diseases.1 However a number of issues remain unresolved. There was a high frequency of missing data in both the derivation and validation samples, only one of the now numerous myositis specific autoantibodies is included, and certain well recognised IIM subtypes are not specifically classified despite their well phenotyped and differing natural histories, clinical features and treatment modalities.2 3

Objectives: To perform an external validation of the EULAR/ACR classification criteria in an incident IIM cohort and examine how classification criteria-assigned IIM subtype correlates with expert opinion.

Methods: Adults with newly diagnosed IIM attending Salford Royal NHS Foundation Trust Neuromuscular services were identified. A retrospective review of all putative cases was performed, and cases fulfilling a consensus expert-opinion diagnosis of definite IIM included. A broad range of clinical, serological and historical data were collected and each case assigned a single IIM subtype by expert opinion. The EULAR/ACR classification criteria were applied and sensitivity, specificity, positive and negative predictive value calculated, presented with 95% confidence intervals (CI).

Results: A total of 922 cases were screened with 255 expert opinion definite IIM identified. The sensitivity to diagnose an IIM was 99.6% (97.2–100) and 80.9% (76.0–85.6) for the classification criteria cut-points of ‘probable’ and ‘definite’ respectively. The sensitivity for ‘definite’ IIM improved to 90.2% (86.5–93.8) when biopsy data for 24/34 initially missed cases were excluded. In 94/255 cases the IIM subtype differed between expert opinion and classification criteria, most strikingly in the group subtyped ‘polymyositis’ using the EULAR/ACR criteria, where there was discrepancy in the majority (87/161).

Abstract OP0148 – Table 1. PM, polymyositis; DM, dermatomyositis; IBM, inclusion body myositis; ADM, amyopathic dermatomyositis; MMN, immune-mediated necrotizing myopathy; ASS, anti-synthetase syndrome; OM, overlap myositis.

Conclusions: The criteria performed with high sensitivity in identifying IIM in an external cohort of IIM patients. However, substantial disagreement exists in subtype assignment, especially resulting in a larger proportion of cases of ‘polymyositis’ with heterogeneous features, important to consider in the application of these criteria to subsequent research.

REFERENCES:

Disclosure of Interest: None declared

AN MRI GUIDED TREAT-TO-TARGET STRATEGY IN RHEUMATOID ARTHRITIS PATIENTS IN CLINICAL REMISSION IMPROVED MRI INFLAMMATION BUT NOT DAMAGE PROGRESSION – RESULTS FROM THE IMAGINE-RA RANDOMISED CONTROLLED TRIAL


Background: Magnetic Resonance Imaging (MRI) bone marrow oedema (BME)/ostitis and MRI synovitis have been identified as predictors of structural damage progression in rheumatoid arthritis RA.1,2 Targeting MRI remission may reduce inflammation and halt damage progression.

Methods: In the two year investigator initiated, randomised, open label multicentre centre IMAGINE-RA study, 200 RA patients in clinical remission (defined as DAS28-CRP <3.2) entered a 2 year T2T treatment strategy targeting DAS28 <3.2 and no swollen joints or an MRI guided T2T strategy applying the same clinical and ultrasound PD activity in a joint precedes clinical joint swelling.

Conclusions: An MRI T2T strategy, aiming to eliminate MRI BME, was more effective than a conventional T2T strategy in reducing MRI inflammation but not MRI damage progression. The reduced inflammatory load caused by the MRI T2T strategy may reduce long-term structural joint damage and improve patient-reported outcomes, but more than two years follow-up data are needed to clarify this.

REFERENCE:

Disclosure of Interest: None declared

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Ultrasound Power Doppler Activity Predicts Clinical Joint Swelling in Early Rheumatoid Arthritis Patients: Secondary Analyses from the Arctic Trial


Background: Ultrasound is increasingly applied in the management of rheumatoid arthritis (RA). It is important to detect synovitis early to prevent future joint damage and disability. It is not known whether subclinical ultrasound inflammation in a joint precedes clinical joint swelling.

Methods: We aimed to investigate whether ultrasound power Doppler (PD) activity in a joint is associated with subsequent clinical joint swelling in early RA patients.

Results: In the treat-to-target ARCTIC trial, DMARD naïve early RA patients were randomised to follow-up with or without ultrasound, with the same treatment algorithm applied in both arms. Patients were assessed by 44 swollen joint count at all visits (13 visits over two years). Ultrasound examinations were performed using a validated 0–3 semi-quantitative scoring system.1 With assessments at all visits in the ultrasound arm and at baseline, 12 and 24 months in the conventional arm. We calculated the risk of next visit clinical joint swelling according to ultrasound inflammation status in clinically non-swollen joints at the preceding visit. We estimated the odds ratio of a joint being swollen at next visit in joints with different PD activity (PD score: 1, 2 or 3), compared to non-swollen joints with no PD activity (PD score=0). These calculations were performed in a logistic mixed-effects model with random intercepts for patient and joint in order to account for within-patient and -joint dependencies, and were adjusted for age, gender, ACPA status, DMARD treatment and strategy arm. Joints injected with corticosteroids were excluded. Data from the two strategy arms were pooled and analysed together, as clinical and radiographic outcomes were similar in the two arms after two years.

Results: 230 patients were included (118 in the ultrasound strategy arm, 112 in the conventional strategy arm). Mean (SD) age was 51.4 (13.7) years, 61% were female and mean baseline DAS was 3.46 (1.17). The risk of clinical joint swelling at the next visit increased with grade of PD activity (table 1).

Abstract OP0150 – Table 1. Risk of swollen joint at the next visit in joints with subclinical synovitis

<table>
<thead>
<tr>
<th>Ultrasound assessment</th>
<th>Joint swelling at the next visit n (%)</th>
<th>OR</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PD 0</td>
<td>706/42819 (1.7%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PD 1</td>
<td>374/649 (7.9%)</td>
<td>3.6 [2.3–5.5]</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>PD 2</td>
<td>33/189 (17.5%)</td>
<td>11.8 [6.9–20.1]</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>PD 3</td>
<td>7/45 (15.6%)</td>
<td>12.1 [4.1–35.7]</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

PD=Power Doppler. Odds ratios are adjusted for within-patient and within-joint dependencies, gender, age, DMARD treatment, ACPA status and strategy arm.

Conclusions: We found PD activity in non-swollen joints to be strongly associated with development of clinical joint swelling at the next visit, and the risk increased with higher power Doppler activity. This study supports the use of ultrasound as a tool to detect joints at risk for developing clinical synovitis.

REFERENCES:

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