the deep learning models predict RA, based on very similar patterns of known (tendo-)synovial inflammation and bone marrow edema (see Figure 1 (b)).

Table 1. The overall performance, mean AUC (+SD)

<table>
<thead>
<tr>
<th>Method: Input</th>
<th>AUC RA in EAC</th>
<th>AUC RA in CSA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wrist + AI models</td>
<td>0.679 (±0.021)</td>
<td>0.688 (±0.039)</td>
</tr>
<tr>
<td>MCP + AI models</td>
<td>0.647 (±0.015)</td>
<td>0.669 (±0.024)</td>
</tr>
<tr>
<td>Foot + AI models</td>
<td>0.664 (±0.009)</td>
<td>0.715 (±0.026)</td>
</tr>
</tbody>
</table>

Figure 1. The overall workflow of the AI model and visualization examples from correctly-predicted samples.

Conclusion: Automatic RA prediction is feasible, using AI interpretation of MRI scans. AI performed close to the level of human experts, including MRI data from healthy controls, as used in RAMRIS-based prediction [1], will probably improve the AI prediction future. The new visualization method not only confirms the significance of known inflammatory features but may also point to new imaging biomarkers, giving a different perspective of understanding RA.


Acknowledgements: This AI-project has been funded by the Dutch Research Council (NWO) Applied and Engineering Sciences (project number 13329) and the China Scholarship Council (CSC) No.202018510012

Disclosure of Interests: None Declared.

DOI: 10.1136/annrheumdis-2023-eular.5455

OPT0003 TASK-SHIFTING IN HAND-OSTEARTHRITIS CARE

Keywords: Randomized control trial, Osteoarthritis, Health Services Research

A. Polster1, L. Ashphag2, A.T. Tveten3, K. Bergmark4, B. Christensen5, I.K. Haugen1, M. Hermann-Eriksen5, Å. Hove5, A. Prøven5, T. Hennig5, T. A. Sjøvold5, I. Kjeken5, 1Diakonhjemmet Hospital, Center for Treatment of Rheumatic and Musculoskeletal Diseases (REMEDY), Oslo, Norway; 2Oslo University Hospital, Health Economics, Oslo, Norway; 3Diakonhjemmet Hospital, Department for Rheumatology and Research, Oslo, Norway; 4Diakonhjemmet Hospital, Division of Clinical Service, Oslo, Norway; 5Martina Hansen Hospital, Sandvik, Norway

Background: Hand-osteoarthrosis (HOA) is a prevalent rheumatic joint disease that significantly reduces quality of life. In Norway, HOA should mainly be managed in primary care, but patients often have insufficient access to recommended treatment options there and are instead frequently referred to rheumatologists. This leads to high healthcare costs and reduces the access to rheumatologists for patients with inflammatory rheumatic diseases, for whom early diagnosis, disease modifying medication and tight controls may induce remission and prevent irreversible joint damage and long-term disability. Delegating the healthcare management and treatment of HOA to allied health professions such as occupational therapists may therefore free scarce healthcare resources and improve overall health economics.

Objectives: In this study we evaluated a new model of care in specialist health-care, where HOA patients receive their first consultation by occupational therapists instead of rheumatologists. The objective was to test the non-inferiority of occupational therapist-led care (OTC) compared to rheumatologist-led care (RC) with regards to effectiveness defined as proportion of responders (based on OMERACT/OARSI criteria) and safety. In addition, we conducted a health economics evaluation comparing Quality-adjusted life years (QUALYs) and treatment costs between the treatment groups and conducted a cost-economics analysis.

Methods: We conducted a randomized controlled multicentre parallel group trial in which we recruited 400 patients with symptomatic HOA and no signs of possible inflammatory rheumatic disease at two Norwegian hospitals. Participants were randomized (1:1:1:computer-based) to either OTC (n=200) or RC (n=200). Various demographic and clinical parameters were registered at baseline. Disease activity (numeric rating scale, NRS; 0-10), pain (NRS, 0-10, 0=no pain) and function (using the MAP-hand questionnaire, 18 items averaged to a 1-4 score, 1=no problems) were registered at baseline and 6 months post-intervention, and the delta was used to determine if patients were responders/non-responders based on OMERACT/OARSI criteria. Chi2-test and logistic regression were used to compare the proportion of responders/non-responders per treatment arm, and to analyse the relationship between response status (as dependent variable) and treatment arm (as independent variables). Results of the logistic regression are presented as odds ratio (OR) with 95% confidence interval (CI). Safety analysis was conducted by screening healthcare journals 12 months post-baseline for new diagnoses and adverse events related to musculoskeletal diseases. QUALYs were calculated using data from EQ-5D weighted with preference weights from the general population. To evaluate cost-effectiveness, we calculated and compared the incremental cost-effectiveness ratio (ICER).

Results: Mean age was 63.6 years (SD=10.01), 80.8 % were female. No statistical difference between the treatment arms was found in any baseline variables. In the RC group, 48 patients (25.8%) met the primary outcome criteria for treatment response. In the OTC group, also 48 (25.4%) were classified as responders. The proportion of responders did not differ by treatment group (X2 (1, N = 337) = 0.0012, p = .97). Treatment group did not significantly predict response status (OR=0.99, CI=0.62-1.59, p =.97). No notable safety-related events were found in either group. No statistically significant differences were found regarding QUALYs and overall treatment costs, and cost-effectiveness was marginal.

Conclusion: We found no statistically significant difference regarding proportion of treatment responders between the two treatment arms, suggesting non-inferiority of OTC compared to RC with regards to effectiveness and safety. While the cost-effectiveness analysis showed no clear benefit for either of the treatment options, delegating HOA treatment to OTs may free RT time and improve healthcare accessibility for urgent diagnoses, and thus prove a valuable opportunity to optimize future healthcare allocation.

REFERENCES: NIL.

Acknowledgements: NIL.

Disclosure of Interests: None Declared.

DOI: 10.1136/annrheumdis-2023-eular.5455

OPT0004 LUPUS100.ORG – A STEP CHANGE IN ACCESS TO QUALITY INFORMATION FOR EUROPEAN LUPUS PATIENTS

Keywords: Patient information and education, Systemic lupus erythematosus, Self-management


1Lupus Europe, PAN, Vilnius, Lithuania; 2Lupus Europe, PAN, Krakow, Poland; 3Lupus Europe, OA, Helsinki, Finland; 4Lupus Europe, PAN, Stockholm, Sweden; 5Lupus Europe, PAN, Dubai, United Arab Emirates; 6Lupus Europe, PAN, Brussels, Belgium

Background: Quality of information on lupus on the internet is a real issue. “Word of mouth,” rumors, unchecked data, or unconfirmed research increase