Conclusions: In the present study, we reported a segmentation framework that offers time savings versus manual segmentations and correlates well with fat fraction measurements. This could be useful for muscle quantification in the fields of osteoarthritis, sports medicine and rehabilitation. Further studies are planned to compare sensitivity of automatically acquired measures to clinical progression.


Disclosure of Interest: None declared

<table>
<thead>
<tr>
<th>ANA-Elia</th>
<th>ANA-IIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity</td>
<td>74.5%</td>
</tr>
<tr>
<td>Specificity</td>
<td>93.6%</td>
</tr>
</tbody>
</table>

Conclusions: The ANA testing with the newly developed, use friendly, fully automated and less labour intensive method of ANA-Elia can replace the standard conventional ANA-IIF with better specificity.

Disclosure of Interest: None declared


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FLUORESCENCE OPTICAL IMAGING ENHANCEMENT IS ASSOCIATED WITH JOINT PAIN IN HAND OSTEOARTHRITIS

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Background: Joint inflammation plays a role in the pathogenesis of hand osteoarthritis (OA), and previous studies have presented an association between pain and synovitis detected by MRI and ultrasound. No previous hand OA studies have explored the validity of fluorescence optical imaging (FOI), a novel imaging technique demonstrating altered microcirculation in wrist and finger joints, as a sign of inflammation.

Objectives: The aims of the current study were to quantify the distribution of FOI-findings in different joint groups in hand OA patients and explore the association between FOI findings and self-reported pain and tender joints on clinical examination.

Methods: The NOR-HAND study is an observational hand OA study, in which 251 patients (88% female, median age 61 (interquartile range 56–66) years) underwent FOI of both hands, bilateral clinical examination for tender joints on palpatation and movement, and self-reported their pain in individual joints during the last 24 hours and the last 6 weeks on the homunculus. The FOI-scan was performed after the administration of an intravenous fluorescence dye (indocyanine green, ICG) and 360 images (1/second) were produced in 6 min. Based on the inflow and washing out of the dye the pictures were divided into 3 phases. Ultimately, the prima vista mode (PVM) represented a composite picture of the first 240 images of the examination. For each phase, fluorescence enhancement in the joints was graded from 0–3 based on signal intensity (grade 1=diffuse red, grade 2=intense red and diffuse white <50% of the joint, grade 3=intense white>50% of the joint). To study the association between FOI findings and pain in the same joint we applied logistic regression analyses with generalised estimating equations adjusting for age and sex. Separate models were applied for each of the FOI phases and pain outcomes.

Results: The median (interquartile range) number of DIP/PIP joints with FOI enhancement within each patient ranged from 0 (0–11) in phase 1, 14 (11–16) in phase 2, 3 (0–8) in phase 3 and 92 (71–111) in PVM. CMC-1 and MCP-joints showed no and uncommon enhancement on the examination, respectively, regardless of the phase, and the associations between FOI and pain were therefore analysed in the DIP and PIP joints only. FOI enhancement in the DIP and PIP joints was associated with pain in the same joint, consistent for all three pain outcomes. A dose-