assess differences in direction ($p < 0.0063$) and Gwet's AC1 score to determine interobserver agreement.

Results: Amplitude of the displacement of the ED tendons was statistically significantly higher in JA+ patients than in JA- patients and controls in flexion for both readers ($p < 0.0001$) and in extension for one reader ($p < 0.0048$). Ulnar deviation of the ED tendons was statistically significantly more frequent in JA+ patients than in JA- patients and controls in flexion and in extension for both readers ($p < 0.0001$). Interobserver agreement for the assessment of displacement was moderate to very good ($0.51 \leq \kappa \leq 0.93$).

Conclusion: JA is associated with abnormal displacement of the ED tendons in flexion and extension. Abnormal displacement of the ED tendons is absent in patients without JA.

References:

- [1] Santiago MB. Miscellaneous non-inflammatory musculoskeletal conditions. Jaccoud's arthropathy. Best Pract Res Clin Rheumatol. 2011;25(5):715-25.

Figure 1. Axial spin echo T1-weighted images of a 49-year-old woman with SLE and JA (a) in flexion and (b) extension. In flexion, the extensor digitorum (ED) tendons of the 3rd and 4th fingers are completely displaced on the ulnar aspect of the metacarpal heads (white arrows) with no tendon visible on the dorsal aspect (arrowheads). In extension, the ED tendons of the 3rd and 4th fingers are slightly displaced on the ulnar side of the dorsal aspect of the metacarpal heads (black arrows).

Figure 2. Axial spin echo T1-weighted images of the sex- and age-matched control subject of the patient from Figure 1 (a) in flexion and (b) extension. The extensor digitorum tendons of the 3rd and 4th fingers are normally positioned on the dorsal aspect of the metacarpal heads in flexion (white arrows) and extension (black arrows).

Disclosure of Interests: Thomas Kirchgesner: None declared, Maria Stoenoiu: None declared, Nicolas Michoux: None declared, Xavier Libouton: None declared, Frederic Houssiau Grant/research support from: UCB, Consultant of: GSK, Bruno Vande Berg: None declared

DOI: 10.1136/annrheumdis-2020-eular.586

FRI0176

NON-HISTOLOGIC FACTORS DISCRIMINATING PROLIFERATIVE LUPUS NEPHRITIS FROM MEMBRANOUS LUPUS NEPHRITIS

Q. C. Kwon¹, J. H. Park¹, M. C. Park¹. ¹Yonsei University College of Medicine, Division of Rheumatology, Department of Internal Medicine, Seoul, Korea, Rep. of (South Korea)

Background: The treatment strategy and renal prognosis between proliferative lupus nephritis (LN) and membranous LN are different. Therefore, it is important to distinguish one from the other. To date, data regarding non-histologic factors that can discriminate proliferative LN from membranous LN are limited.

Objectives: To investigate non-histologic factors that can discriminate proliferative LN from membranous LN in patients with systemic lupus erythematosus with renal manifestations.

Methods: Patients with biopsy-proven proliferative LN and membranous LN were included. Non-histologic factors were compared between the two groups. A logistic regression analysis was performed to identify the factors associated with proliferative LN. To assess the accuracy of these factors in discriminating

between proliferative LN and membranous LN, we performed a receiver-operating characteristic analysis.

Results: Of the total 168 patients with biopsy-proven LN, 150 patients (89.3%) had proliferative LN, and 18 patients (10.7%) had membranous LN. In the multivariable logistic regression analysis, positive anti-double-stranded DNA (anti-dsDNA) antibody (adjusted OR = 11.200, 95% CI = 2.202–56.957, $p = 0.004$) was associated with proliferative LN, while positive anti-U1RNP antibody (adjusted OR = 0.176, 95% CI = 0.040–0.769, $p = 0.021$) and higher glomerular filtration rate (GFR) (adjusted OR = 0.973, 95% CI = 0.951–0.994, $p = 0.013$) were inversely associated with proliferative LN. Among these covariates, the anti-dsDNA antibody (area under the curve = 0.806, 95% CI = 0.695–0.916) had the highest accuracy in discriminating between proliferative LN and membranous LN.

Conclusion: The positivity of anti-dsDNA antibody was associated with proliferative LN, while the positivity of anti-U1RNP antibody and GFR were inversely associated with proliferative LN. The anti-dsDNA antibody had a good accuracy in discriminating proliferative LN from membranous LN.

References: Not applicable

Table. Factors associated with proliferative LN

	Univariable analysis		Multivariable analysis	
	OR (95% CI)	p	OR (95% CI)	p
Age	0.982 (0.951–1.014)	0.269		
Female sex	1.437 (0.295–7.006)	0.653		
Positive anti-Sm Ab	0.648 (0.243–1.728)	0.386		
Positive anti-Ro Ab	0.928 (0.341–2.529)	0.885		
Positive anti-La Ab	2.075 (0.572–7.528)	0.267		
Positive anti-U1RNP Ab ^a	0.271 (0.085–0.861)	0.027	0.176 (0.040–0.769)	0.021
Positive anti-dsDNA Ab ^a	7.333 (2.574–20.893)	<0.001	11.200 (2.202–56.957)	0.004
Low C3 ^a	9.970 (3.117–31.891)	<0.001	1.886 (0.255–13.932)	0.534
Low C4 ^a	3.839 (1.405–10.486)	0.009	1.224 (0.229–6.552)	0.813
GFR	0.980 (0.964–0.997)	0.021	0.973 (0.951–0.994)	0.013
Urine PCR	1.000 (0.987–1.013)	0.986		
Urine RBC of ≥ 5 /HPF	4.178 (1.516–11.509)	0.006	2.053 (0.426–9.893)	0.370
Urine WBC of ≥ 5 /HPF	2.687 (0.958–7.543)	0.060		
Urine cast	4.429 (0.567–34.578)	0.156		
SLEDAI-2K	1.173 (1.063–1.294)	0.001	1.046 (0.900–1.216)	0.557

Variables with P value less than 0.05 in the univariable analysis were selected for inclusion in the multivariable analysis.

^aAnalyzed as binary variables (Anti-U1RNP Ab, positive/negative; Anti-dsDNA Ab, positive/negative; C3, low/not low; C4, low/not low)

Ab, antibody; anti-dsDNA, anti-double-stranded DNA; GFR, glomerular filtration rate; PCR, protein/creatinine ratio; RBC, red blood cell; HPF, high power field; WBC, white blood cell; SLEDAI-2K, Systemic Lupus Erythematosus Disease Activity Index 2000; OR, odds ratio; CI, confidence interval

Acknowledgments: None.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2020-eular.4056

FRI0177

MULTI-MODALITY IMAGING TO EVALUATE LUPUS NEPHRITIS

C. Dykas¹, B. H. Rovin², M. Boesen³, O. Kubassova⁴, P. Lipsky¹. ¹AMPEL BioSolutions, Charlottesville, United States of America; ²The Ohio State University, Columbus, United States of America; ³University of Copenhagen, Copenhagen, Denmark; ⁴Image Analysis Group, London, United Kingdom

Background: Lupus nephritis (LN) remains a significant cause of morbidity and mortality in subjects with Systemic Lupus Erythematosus (SLE). The gold standard for evaluation of LN remains the kidney biopsy, whereas renal function is usually evaluated by eGFR and urinary protein:creatinine ratio. More effective and sensitive methodology is needed to assess LN and also the response to treatment. Functional imaging of the kidney using quantitative techniques has great potential, as it can assess kidney function and pathologic changes non-invasively by evaluating perfusion, oxygenation, cellular density and fibrosis.

Objectives: The objective of this study was to develop a multi-modality imaging approach for the evaluation of the spectrum of pathologic changes in LN and to determine when imaging data correlated with renal function

Methods: In this multi-center study (NCT03180021), subjects who were having a standard of care renal biopsy for LN were asked to participate in the imaging evaluation. Local Institutional Review Board approval was obtained, and subjects signed an Informed Consent Form. Dynamic contrast enhanced MRI (DCE-MRI) was employed to detect changes in vascularization and perfusion, Diffusion Weighted Imaging (DWI) to assess interstitial diffusion, T2*Map/BOLD to evaluate tissue oxygenation and T1rho to evaluate fibrosis (Figure 1). Regions of interest were identified in the imaged kidneys and imaging parameters were correlated with measures of renal function, including eGFR and urinary