REFERENCES:

- [1] Levinson W, Kallewaard M, Bhatia RS, Wolfson D, Shortt S, Kerr EA. 'Choosing Wisely': a growing international campaign. *BMJ Qual Saf*. 2015;24(2):167-74.
- [2] Abeles AM, Abeles M. The clinical utility of a positive antinuclear antibody test result. *The American journal of medicine*. 2013;126(4):342-8.

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OP0021

PREDICTING SEVERE INFECTION IN REPEAT CYCLES OF RITUXIMAB AND EFFECTS OF HYPOGAMMAGLOBULINAEMIA FOR THE TREATMENT OF RHEUMATIC AND MUSCULOSKELETAL DISEASES

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Background: Rituximab (RTX) is effective in treating various rheumatic and musculoskeletal diseases (RMDs). Repeat cycles are often required for disease control but may lead to hypogammaglobulinaemia. Low IgG at baseline has been associated with increased risk of severe infection event (SIE) post-RTX. However, there are limited data on predictors of SIEs in repeat cycles including immunoglobulin levels and B-cell numbers as well as outcomes of hypogammaglobulinaemia.

Objectives: To assess predictors of SIEs in repeat RTX cycles and effects of hypogammaglobulinaemia in terms of SIEs rates, humoral response and its persistence post-cessation of RTX.

Methods: A retrospective study was conducted in the first 700 consecutive ARD patients treated with at least a cycle of RTX in Leeds. IgM, IgA and IgG levels were measured at baseline and 4-6 months after each cycle. For cycles 2-4 (C2-4), predictors for SIEs were analysed using mixed-effects logistic regression analysis.

Results: 550 patients were female, mean(SD) age 56(16) years and median (IQR) disease duration 7.9(3.4-15.0) years. 507(72%) had RA, 94(13%) SLE, 49 (7%) AAV, 14(2%) inflammatory myopathies, 9(1%) pSS, 5(1%) APS, 6(1%) SSc and 16(3%) other CTDs. 364(52%) were biologic-naïve and 514(73%) were on concomitant DMARDs. Total follow-up: 2880 patient-years (PY). 281 SIEs were recorded in 176 patients (9.8/100 PY). In C1, we had validated that low IgG was predictive of SIE within 12 months of C1. For cycles 2-4, in multivariable analysis, non-RTX-specific comorbidities [chronic lung OR (95% CI) 2.4 (1.3-4.4), diabetes 2.9 (1.2-6.9), heart failure 6.3 (1.4-28.1), previous cancer 3.0 (1.3-6.7) and severe infection 6.3 (3.0-13.4)] and RTX-specific variables [higher corticosteroid dose 1.08 (1.02-1.14), higher IgM 1.3 (1-1.7) and longer retreatment time 1.01 (1-1.02)] were associated with increased odds of SIEs, but not B-cell numbers or depletion status. Higher IgG reduced the risk 0.88 (0.8-0.96). Of 103 patients with low IgG for at least 4 months duration, SIEs rates were higher in those with low baseline IgG (16.4 PY) or acquired it during/post-RTX (21.3 PY) versus those with normal IgG (9.7 PY), 5/8(64%) had impaired humoral response to pneumococcal and haemophilus following vaccination challenge and only 4/11(36%) had IgG normalised after switching therapies. Overall, 7(1%) of the patients required Ig replacement based on recurrent sino-pulmonary SIEs and/or low IgG.

Conclusion: Immunoglobulin should be monitored at baseline and before each RTX cycle to identify patients at risk of SIEs. Vigilance is needed for those with lower IgG as this is a consistent predictor of SIE and may affect infection outcomes when patients are switched to a different bDMARD. For those at risk of SIEs, reduction of corticosteroid dose could reduce risk. Low B-cell numbers were not predictive of SIEs.

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OP0022

DO MRI-DETECTED EROSIONS IN PATIENTS WITH CLINICALLY SUSPECT ARTHRALGIA PREDICT PROGRESSION TO RHEUMATOID ARTHRITIS? A LONGITUDINAL STUDY

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Background: Radiographic joint erosions are a hallmark of Rheumatoid Arthritis (RA). MRI is more sensitive than radiographs in detecting erosions. It is unknown if MRI-detected erosions are predictive for RA-development in patients with Clinically Suspect Arthralgia (CSA).

Objectives: We investigated the prognostic value of MRI-detected erosions (any MRI-erosion, or MRI-erosion characteristics that were recently identified as specific for RA) in CSA.

Methods: Patients presenting with CSA (n=491) underwent contrast-enhanced 1.5T MRI of the wrist, metacarpophalangeal (MCP) and metatarsophalangeal (MTP) joints at baseline. MRIs were scored according to RAMRIS. Presence of any MRI-erosion (erosion score ≥ 1) and RA-specific erosion characteristics as identified previously (grade ≥ 2 erosions, erosions in MTP5, erosions in MTP1 if aged <40) were studied with clinically apparent inflammatory arthritis development as outcome (median follow-up 17 months). Analyses were corrected for age, CRP, ACPA and MRI-detected inflammation.

Results: Erosions were present in 20.6% of patients. Presence of erosions was not associated with arthritis development (HR multivariable analysis 0.85 (95% CI 0.52-1.40)). Also the different erosion characteristics were not predictive in CSA-patients (grade ≥ 2 HR 1.29 (95% CI 0.40-4.14), erosions in MTP5 HR 0.89 (95% CI 0.38-2.09) and MTP1 if aged <40 HR 0.98 (95% CI 0.23-4.21)). MRI-erosions were more prevalent in ACPA-positive than in ACPA-negative patients (32.3% versus 18.8%, p=0.02). However, no association with arthritis development was observed in both subgroups.

Conclusion: MRI-detected erosions in hands and feet of patients with CSA were not predictive for arthritis development. These data warn against overinterpretation of MRI-detected erosions in CSA.

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LB0001

EFFICACY AND SAFETY OF FILGOTINIB FOR PATIENTS WITH RHEUMATOID ARTHRITIS WITH INADEQUATE RESPONSE TO METHOTREXATE: FINCH1 PRIMARY OUTCOME RESULTS

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Background: Filgotinib (FIL) is an orally administered, potent and selective inhibitor of Janus kinase 1 (JAK1) that has shown good efficacy and was well tolerated for treatment of rheumatoid arthritis (RA).

Objectives: To evaluate efficacy and safety of FIL treatment in patients with RA who have had an inadequate response to methotrexate (MTX).