cells decreased in the remission group. The analysis of T cells classified according to chemokine receptors showed that memory (29.1 ± 4.0 vs $22.7 \pm 2.7 \times 10^4$ cells/mL; $p=0.06$) and naïve (22.6 ± 4.1 vs 17.2 ± 2.8 ; $p=0.04$) CD4 +with CXCR3 +and with CCR4 +were the subsets that decreased significantly in the remission group but not in the non-remission group. Since the expression of chemokine receptors defines the different Th subpopulations, we analysed them in the two groups of patients. Th1 tended to decrease in the remission group (3.5 ± 0.7 vs 2.5 ± 0.4 ; $p=0.06$) and Th9 decreased significantly in both groups ($R: 5.0 \pm 0.8$ vs 2.5 ± 0.3 ; $p=0.006$ and Non $R 5.5 \pm 0.8$ vs 3.1 ± 0.4 ; $p=0.001$). In regard to the cytokines produced by CD4 +T lymphocytes, IL-17 (2.1 ± 1.1 vs 1.2 ± 0.5 ng/ml; $p=0.04$) and VEGF (0.5 ± 0.2 vs 0.3 ± 0.1 ng/ml; $p=0.05$) but not IL-6 and IL-22 changed significantly in the remission group. Interestingly, IL-17 and VEGF correlated with US findings before the initiation of the treatment (grey scale $R=0.378$, $p=0.01$ and $R=0.322$, $p=0.03$; power Doppler $R=0.415$, $p=0.004$ and $R=0.320$, $p=0.03$ respectively).

Conclusions: Tocilizumab induced changes in specific subsets of CD4 +T cells and their inflammatory associated cytokines in the remission group.

Disclosure of Interest: None declared

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AB0425 PREVALENCE AND RISK FACTORS OF SERIOUS INFECTIONS IN RHEUMATOID ARTHRITIS PATIENTS RECEIVING THE BIOLOGIC/TARGETED SYNTHETIC DMARDS: A PROPENSITY SCORE ANALYSIS FROM THE HONG KONG BIOLOGICS REGISTRY

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Objectives: To study the prevalence and risk factors for serious infections in rheumatoid arthritis (RA) patients receiving the biologic/target synthetic (b/ts) DMARDs.

Methods: Patients who fulfilled the EULAR/ACR criteria for RA and were ever treated with b/tsDMARDs were included. Withdrawal of b/tsDMARDs due to serious adverse events (SAEs) and serious infections (SIs) was analysed. Demographic data, medical comorbidities and concomitant use of glucocorticoids and csDMARDs were retrieved and their contribution to SIs was evaluated by logistic regression. The propensity score for SIs was calculated and patients were stratified into 5 quintiles. The hazard ratios (HRs) of SIs with respect to individual b/tsDMARDs in each quintile were studied by Cox regression.

Results: Up to December 2017, 2355 courses of b/tsDMARDs were used in 1355 RA patients (83% women; age 54.0 ± 12.7 years). The usage of various b/tsDMARDs was: adalimumab (12%), etanercept (24%), infliximab (17%), golimumab (9.4%), certolizumab (0.9%), tocilizumab (19%), rituximab (6.6%), abatacept (7.7%) and tofacitinib (2.7%). After a follow-up of 5056 patient-years, 1433 courses of b/tsDMARDs were discontinued, with major reasons being inefficacy (50%), SAEs (22.4%) and cost (8.4%). Among those b/tsDMARD courses terminated because of SAEs, 32% were due to SIs (103 episodes). The rate of SIs was 1.17/100 patient-years. The commonest causes of SIs were pulmonary tuberculosis (TB) (41%), severe pneumonia (33%), soft tissue infection (6.8%), atypical TB (2.9%), urogenital sepsis (2.9%), septic arthritis (2.9%), hepatobiliary/gastrointestinal sepsis (2.9%), central nervous infection (1%), severe viral infections including herpes zoster (5.8%), and opportunistic infections (2.9%). A logistic regression model showed that increasing age (OR 1.02 [1.001–1.04 per year]), male sex (OR 1.88 [1.08–3.26]) and concomitant chronic obstructive pulmonary disease/asthma (OR 2.55 [1.05–6.23]) were risk factors significantly associated with SIs. The rate of TB infection was highest in users of infliximab (2.32/100 patient-years), followed by tofacitinib (1.47), adalimumab (1.27), etanercept (0.62) and tocilizumab (0.36). Non-TB SIs occurred most frequently with infliximab (2.32/100 patient-years), tofacitinib (1.47) and abatacept (1.15). In the quintile of patients with the highest propensity score for SIs, infliximab had the highest withdrawal rate due to SIs (18%), followed by tofacitinib (10%), etanercept (8%), adalimumab (6%), abatacept (2.8%) and tocilizumab (2.6%). Cox regression revealed the following HRs for SIs with reference to adalimumab: infliximab (2.81 [0.80–9.88]), tofacitinib (HR 2.12 [0.19–23.4]), etanercept (HR 0.82 [0.22–3.11]), abatacept (HR 0.41 [0.04–3.98]) and tocilizumab (HR 0.38 [0.06–2.26]). Concomitant low-dose glucocorticoid was associated with an insignificantly increased risk of SIs only in the three quintiles of patients with lower propensity to SIs.

Conclusions: SIs causing withdrawal of b/tsDMARDs in patients with RA account for one-third of all SAEs. Increasing age, male sex and concomitant chronic chest conditions were independent risk factors for SIs. Infliximab was associated with the highest rates of serious TB and non-TB infection, and this observation was consistent in all quintiles of patients with different propensity to SIs.

Disclosure of Interest: None declared

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AB0426 EFFICACY OF MONOTHERAPY OF THE BIOLOGIC DMARDS IN PATIENTS WITH RHEUMATOID ARTHRITIS: REAL LIFE DATA FROM THE HONG KONG BIOLOGICS REGISTRY

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Objectives: To report the prevalence and efficacy of biologic DMARD (bDMARD) monotherapy in real life treatment of rheumatoid arthritis (RA).

Methods: RA patients registered in the Hong Kong Biologics Registry who were receiving bDMARD monotherapy (without concomitant conventional synthetic DMARDs [csDMARDs] except low dose prednisolone) were identified. The efficacy (clinical response and drug retention rate) of bDMARD monotherapy was compared with bDMARD combination therapy (with csDMARDs) using statistical tests.

Results: From December 2007 to April 2017, 2123 courses of bDMARDs/tsDMARDs were used in 1250 RA patients (83% women, mean age at therapy 53.8 ± 12.7 years). Among 1881 courses of therapies with complete data, 164 (8.7%) was monotherapy at baseline. Low dose prednisolone (<10 mg/day) was used in 56% of these courses. In the combination group, the commonest csDMARDs used in combination with bDMARDs were methotrexate (79%), sulphasalazine (27%), hydroxychloroquine (25%) and leflunomide (21%). The bDMARDs/tsDMARDs most frequently used as monotherapy were tofacitinib (14.3%), tocilizumab (11.6%) and abatacept (11.2%). Overall, the non-TNF was more commonly used as monotherapy (11.2%) than the anti-TNF bDMARDs (7.4%). At 6 months of bDMARD/tsDMARD therapy, the DAS remission rate was non-significantly higher in the combination than monotherapy group (11% vs 5%; $p=0.42$). The change in DAS28 score was also non-significantly greater in the combination group (-1.95 ± 1.26 vs -1.68 ± 1.56 ; $p=0.30$). The difference in 6 month efficacy between the combination and monotherapy groups was greater in anti-TNF users. The overall cumulative withdrawal rate of the bDMARDs/tsDMARDs due to either inefficacy or serious adverse events (SAEs) was 0.55 at 3 years and 0.47 at 5 years. The anti-TNF biologics had a significantly higher withdrawal rate than the non-TNF biologics (hazard ratio [HR] 1.83 [1.56–3.14]; $p<0.001$). In Cox regression models, monotherapy of the bDMARDs was not significantly associated with drug withdrawal due to inefficacy (HR 0.95 [0.53–1.71]; $p=0.87$) or SAEs (HR 1.27 [0.51–3.19]; $p=0.61$) after adjustment for age, sex, anti-TNF (vs non-TNF) biologic use, previous use of bDMARDs (vs first time use) and DAS28 at baseline. Separate analyses of the anti-TNF and non-TNF biologics again did not reveal a significant relationship between monotherapy of the biologics with the drug withdrawal due to inefficacy or SAEs after adjustment for age, sex, previous use of bDMARDs and disease activity at baseline (HR 1.002 [0.56–1.80]; $p=0.99$ for anti-TNF and HR 1.20 [0.47–3.08]; $p=0.70$ for non-TNF biologics, respectively).

Conclusions: Monotherapy of bDMARD/tsDMARD was used in 8.7% of our RA patients in real life practice, probably due to intolerance, inefficacy or non-compliance to the csDMARDs. Short-term efficacy tended to be better with bDMARDs/csDMARDs combination, especially in the anti-TNF biologics, but the long-term drug retention rate was similar between bDMARD monotherapy and combination therapy with the csDMARDs.

Disclosure of Interest: None declared

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AB0427 COMPARATIVE SAFETY OF ABACEPT VS TOFACITINIB IN ADULTS WITH MODERATE-TO-SEVERE RA: A SYSTEMATIC LITERATURE REVIEW AND NETWORK META-ANALYSIS

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Background: While targeted (biologic or synthetic) DMARDs are overall highly effective in improving symptoms and function in RA patients (pts), their comparative safety relative to each other remains inconclusive.

Objectives: Compare the safety of abatacept (ABA) and tofacitinib (TOF) through a systematic literature review (SLR) and network meta-analyses (NMA).

Methods: A comprehensive search of randomised and non-randomised clinical trials was conducted across MEDLINE, Embase and Cochrane CENTRAL databases from inception to June 2017. The PICO framework (population=moderate to severe RA pts; intervention=ABA and TOF; comparison=placebo and other RA therapies; outcome=AEs, treatment-related AEs [TrAEs], serious infections and treatment-related deaths) was used to design searches and define the eligibility of studies for inclusion. Additional searches were performed on relevant conference proceedings and the US clinical trials registry from the past 2 years (figure 1). Data configuration was performed by expert methodologists using DOC Data 2.0 (Doctor Evidence, Santa Monica, CA). NMAs using the random-effects model were used to examine the risk of AEs, TrAEs and serious infections in