Conclusions: The beneficial properties on survival seen with HCQ use in other inflammatory diseases seem also applicable to RA patients. These results need confirmation in a randomised setting but justifies the use of HCQ in combination with other conventional synthetic disease-modifying antirheumatic drugs even though the effect of HCQ, *per se*, on RA disease activity is limited.

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OP0192 METHOTREXATE USE AND THE RISK FOR CARDIOVASCULAR DISEASE AMONG RHEUMATOID PATIENTS INITIATING BIOLOGIC DISEASE-MODIFYING ANTIRHEUMATIC DRUGS

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Background: Methotrexate (MTX) has been associated with reduced risk for CVD in several studies conducted among rheumatoid arthritis (RA) patients never exposed to biologic disease-modifying antirheumatic drugs (bDMARDs). Effect of concomitant MTX use on CVD risk among RA patients initiating bDMARDs remains unknown.

Objectives: The objective of this study was to assess the CVD risk associated with MTX use among RA patients initiate bDMARDs, overall, and by each bDMARDs initiated.

Methods: A retrospective cohort study was conducted using 2006–2015 Medicare claims data for RA patients. Follow up started at initiation (index date) and ended at earliest of 1) end of exposure of the specific bDMARDs agent (days of supply plus 90 days extension), 2) switched to other bDMARDs or tofacitinib, 3) CVD event, 4) death date, 5) loss of Medicare coverage, 6) end of study (September 30, 2015). MTX use was defined as 1) concomitant MTX use, with prescription for MTX within 120 days after index date and 2) time varying MTX, defined as prescription date to prescription date plus days of supply without extension. For sensitivity analysis, a 90 day extension was added to days of supply. The primary outcome was composite of incident MI, incident stroke and fatal CVD. Fatal CVD were identified by a claims based algorithm with PPV $\geq 80\%$.

Incidence rates (IR) and 95% confidence intervals (CI) were calculated using Poisson regression. Overall association between MTX use (versus no MTX) and risk of CVD were assessed using Cox regression. Given that the interactions between MTX and background bDMARDs was significant, we performed contrast (MTX Yes vs No) to examine the association between MTX and risk for CVD for each underlying bDMARDs in one model. A subgroup analysis limited the cohort to RA patients with previous exposure to MTX was conducted to ensure consistency of findings.

Results: A total of 88,255 DMARDs initiations (64,218 patients) were included in this study. The average age at initiation was 64.6 (12.3) years, 84.0% were female, 68.2% were non-Hispanic white. The crude IRs for CVD were 13.1 (95% CI: 12.2 to 14.0) and 18.7 (95% CI: 17.6 to 19.9) events per 1000 person years for RA patients with and without concomitant MTX respectively. The crude IRs for CVD were 12.1 (95% CI: 11.1 to 13.2) and 17.9 (95% CI: 16.9 to 18.8) events per 1000 person years for RA patients with and without time varying MTX respectively. IRs for individual bDMARDs are shown in figure. P-value for interaction

between concomitant MTX and background bDMARDs was 0.0189 and p-value for interaction between time varying MTX and background bDMARDs was 0.0030. The contrast HRs for concomitant MTX ranged from 0.61 (0.37, 1.01) for golimumab initiators to 0.97 (0.74, 1.26) for adalimumab initiators (figure 1). The contrast HRs for time varying MTX ranged from 0.58 (0.35, 0.96) for certolizumab initiators to 0.90 (0.68, 1.18) for adalimumab initiators. Results were robust in sensitivity and subgroup analyses.

Conclusions: Our observational study suggests an overall 23% reduction of CVD risk associated with concomitant MTX use. The effect sizes vary among background bDMARDs.

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OP0193 TOCILIZUMAB AND THE RISK FOR CARDIOVASCULAR DISEASE EVENTS AMONG RHEUMATOID ARTHRITIS PATIENTS: A DIRECT COMPARISON IN REAL WORLD SETTING

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Background: Multiple studies have observed unfavourable changes in lipid profile associated with tocilizumab (TCZ, anti-IL6 receptor antagonists) and some other rheumatoid arthritis (RA) therapies. The real-world cardiovascular disease (CVD) risk associated with the first anti IL-6R medication for RA, TCZ, remains uncertain.

Objectives: The objective of this study was to assess the CVD risk associated with TCZ compared to individual tumour necrosis inhibitor (TNFi) therapies, as well as to other biologics used for RA (e.g. rituximab, abatacept).

Methods: Using 2006–2015 Medicare and MarketScan claims data, we conducted a retrospective cohort study among RA patients who initiated biologic disease-modifying antirheumatic drugs (bDMARDs) after January 1, 2010 and had at least 365 days medical and pharmacy coverage before initiation. The primary outcome was a composite of myocardial infarction (MI), stroke, and fatal CVD assessed using a validated method. Subgroups analyses were done for RA patients experienced to other bDMARDs before initiation and by stratifying patients with respect to key CVD risk factors to identify both higher and lower CVD risk patients. We provided descriptive statistical for each exposure group. Incidence rates and 95% confidence intervals were calculated using Poisson regression. COX regression was used to generate unadjusted and adjusted hazard ratio.

Results: We identified 354,486 (Medicare 206,275+MarketScan 148,211) RA patients and 463,446 (Medicare 271,832+MarketScan 191,614) initiations of bDMARDs. After applying inclusion and exclusion criteria, the final cohort contained 88,463 (Medicare 46,648+MarketScan 41,815) RA patients and 117,493 (Medicare 61,715+MarketScan 55,778) episodes. The mean (SD) age was 64.7 (12.1) in Medicare and 52.2 (12.3) in MarketScan. The majority of patients were female (83.9% in Medicare and 80.5% in MarketScan), and 68.6% were non-Hispanic White in Medicare. TCZ users were similar to abatacept and rituximab users except that TCZ users were less likely to be naïve to bDMARDs. Compared to TNFi users, TCZ users were more likely to be white, with history of CVD (other than MI or stroke), heart failure, atrial fibrillation, hospitalisation and had more