PSORIASIS

ASSOCIATION BETWEEN TOFACITINIB-BASED THERAPY AND CARDIOVASCULAR EVENTS IN PATIENTS WITH CHRONIC PLAQUE PSORIASIS: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS

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Introduction: Tofacitinib was effective in the treatment of chronic plaque psoriasis (CPP). Given that CCP was associated with an increased risk of cardiovascular disease, it is imperative to evaluate a possible association between tofacitinib-based therapy and cardiovascular events (CVEs) in patients with CCP.

Objective: To explore a possibile association between tofacitinib-based therapy for IMIDs and CVEs.

Materials and Methods: We searched PubMed, Embase, and Cochrane Library from inception through February 2019 to identify randomized controlled trials (RCTs) reporting safety issues. The primary and secondary outcome measures were CVEs and major adverse cardiovascular events (MACEs). Mantel-Haenszel fixed-effects method was performed to calculate odds ratio (OR) and 95% confidence interval (CI).

Results: A total of 10 studies involving 3,826 patients were included. Compared with placebo, there was no significant association between tofacitinib treatment and the incidence of all CVEs 1.46 (95%CI: 0.32-6.65, p=0.63), MACEs (OR 1.52, 95% CI: 0.18-12.74, p=0.89) in patients with CCP. Meanwhile, paired comparisons showed 5mg tofacitinib twice daily seem not to be safer than 10mg regarding the risk of all CVEs (OR 3.07, 95% CI: 1.05-8.99, p=0.04), and MACEs (OR 3.85, 95% CI: 0.95-15.60, p=0.92) in patients with CPP, respectively. There was no evidence of statistical heterogeneity across the studies using the I2 statistic.

Conclusions: Based on current available datasets, a trend towards higher rates of CVEs in tofacitinib-treated patients relative to placebo, but the difference did not reach statistical significance. In dose comparison, 10mg tofacitinib appeared to be safer than 5mg concerning CVEs risk. To provide panoramic view of relationship between tofacitinib-based treatment and CVEs, both long-term cohort studies and continued post-marketing risk

monitoring are required in the future.

Figure 1: Odds ratio (OR) of all cardiovascular events (CVEs) in randomized controlled trials using Mantel-Haenszel fixed-effects method in patients treated with tofacitinib, compared with placebo.