### Introduction

Dual biologic therapy is used clinically in patients with separate disease processes best treated by different biologics or in the management of a single disease refractory to biologic monotherapy. While the safety of biologic monotherapy has been well characterized, there is a paucity of data in the literature regarding the safety of dual biologic therapy. This study aims to characterize the safety profile of using omalizumab concomitantly with a dual biologic agent.

### Methods

Retrospective chart review of 8 patients who received omalizumab simultaneously with a second biologic agent at a university-based hospital in Kansas City, KS. Patients under age 18 years were excluded. Patients were identified by the Healthcare Enterprise Repository for Ontological Narratives (HERON). Data was collected from the following time periods: (a) 1 year prior to starting dual biologics, (b) the time period on omalizumab plus a second biologic, and (c) 1 year after discontinuation of dual biologics. Patient demographics, lab parameters, and infections were analyzed. Descriptive statistics and Wilcoxon signed rank test were used to compare the difference in these parameters between these time periods.

### Results

There were no statistically significant differences in the average number of infections per month or other parameters (CBC, GFR, creatinine, BMI) among the three time periods. There were no statistically significant differences in the average number of bacterial or viral/fungal infections per month or other parameters (CBC, GFR, creatinine, BMI) among the three time periods.

### Discussion

The average total number of infections per month while on dual biologics was 0.42 compared to 0.29 in the pre-dual biologics period (P=0.68) and 0.35 in the post-dual biologics period (P=0.86). There were no statistically significant differences in the average number of bacterial, viral, or fungal infections per month.

### Conclusion

Dual biologic therapy with omalizumab and a second biologic agent showed no increase in infections or lab abnormalities. Given our small sample size, larger prospective studies are necessary to further evaluate the safety profile of dual biologic therapy.