



# Response to H1-antihistamines in Chronic Spontaneous Urticaria Patients with Allergic Rhinitis

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## Introduction

- The prevalence of allergic rhinitis (AR) is reported to be higher among patients with chronic spontaneous urticaria (CSU).
- However, the relationship between AR and response of CSU patients to H1-antihistamines is not well defined.
- We hypothesize that AR can modify patient response to H1-antihistamines.

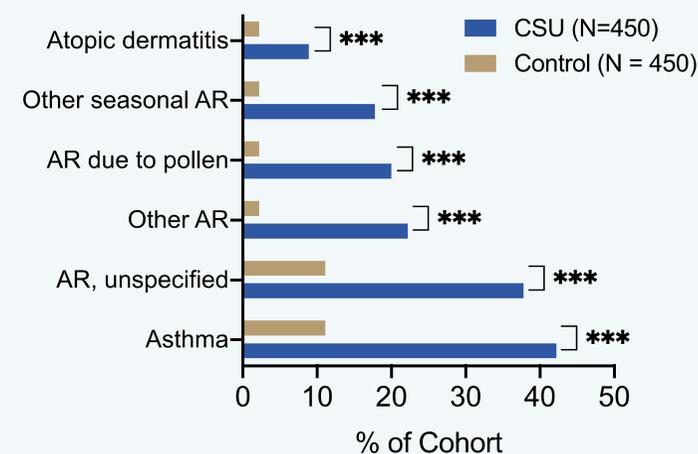
## Methods

- We conducted a retrospective study using TriNetX (Cambridge, MA), a global federated health research network that provides access to de-identified EMRs from our organization.
- A modified validated algorithm was used to identify CSU patients seen during 2015, who had two consecutive ambulatory visits at least 6 weeks apart with an ICD-10 code of either 'idiopathic urticaria', 'other urticaria' or 'urticaria, unspecified', and have received second-generation H1-antihistamines.
- The prevalence of AR among the CSU cohort was compared to a cohort of patients seen during the same time frame but without a diagnosis of urticaria.
- We used 1:1 propensity score matching to balance the cohorts before comparison. A standardized mean difference of less than 0.1 was used to indicate well balanced cohorts.

- We compared patients with and without AR with regards to requiring the addition of omalizumab to H1-antihistamines for treatment of CSU over an observation period of 4-5 years.
- We excluded patients with asthma who represent an alternative indication for omalizumab.

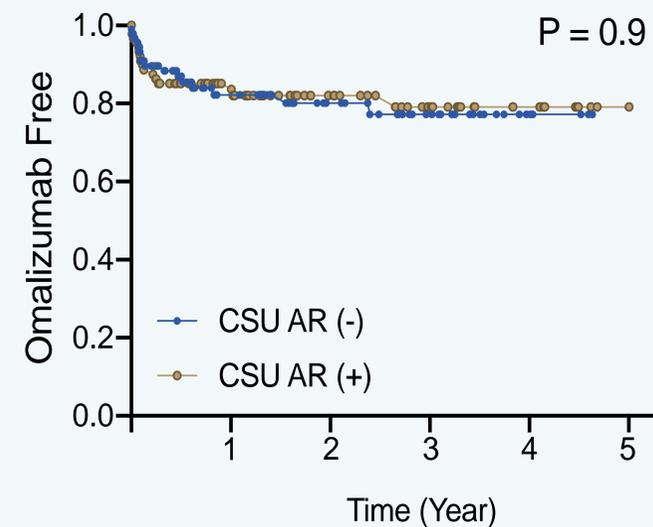
## Results

- We identified 450 CSU patients. Mean age at diagnosis ( $\pm$ SD) was 44.2 ( $\pm$ 16.6); 82% were females.
- Prevalence of AR was higher in patients with CSU than matched controls without a diagnosis of CSU seen during the same time frame. Similarly, the prevalence of atopic dermatitis and asthma was higher in the CSU group (Figure 1).



**Figure 1. Patients with CSU have a higher prevalence of AR.** Results shown are after matching for age, sex and white race.

- After excluding individuals with asthma (N=200) and conducting 1:1 propensity score matching for age, sex, and race, each cohort consisted of 100 patients, and they were well balanced.
- The CSU with AR group had a mean age of 44.3  $\pm$  16.2, and the CSU without AR group had a mean age of 44.6  $\pm$  16.6. Both groups were 80% female and 70% white.
- Equal proportion of CSU patients with AR required omalizumab when compared to CSU patients without AR [RR=1; 95% CI (0.574,1.741)] (Figure 2).



**Figure 2. An equal proportion of CSU patients with AR required omalizumab when compared to those without AR.** Results shown are after excluding patients with asthma and matching for age, sex and white race.

## Conclusion

- Patients with chronic spontaneous urticaria have higher prevalence of allergic rhinitis.**
- In patients with CSU, the presence of AR does not predict response to H1-antihistamines.**

## References

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