AAAAI abstract

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Title: **Do obese subjects have a high prevalence of documented penicillin allergy?**

Rationale: The aim of this study is to determine if the prevalence of penicillin allergy is increased in obese patients. Epidemiologic data has shown increased risk of atopy and asthma in obesity, speculated to be due to increased IL-6, leptin and TNF alpha, and downregulation of T-reg cells.

Methods: The 2012-2014 National Inpatient Sample database (NIS) was used to select patients with a diagnosis of obesity. ICD 9 code V14.0 was used to determine the number of obese subjects with history of penicillin allergy. Characteristics including race, age, and gender of the isolated cases were collected. The prevalence of penicillin allergy in the obese subset was compared to 10% from published outpatient reports.

Results: Of 2268842 obese patients in the NIS, 4.2% (96027) were found to have a history of penicillin allergy significantly less than 10.0% from published reports ($p<.001$). The mean age of obese patients with reported penicillin allergy was 57.9. Females comprised 72.0% of cases. Both age and gender distributions are similar to previous reports. The distribution of obese patients with penicillin allergy by race is as follows: 68.5% were white, 16.2% black, 8.0% Hispanic, .7% Asian or Pacific Islander, and .6% Native American. There is no appropriate inpatient data for comparison of race distribution in patients with reported penicillin allergy.

Conclusion: Obese patients have statistically less documented history of penicillin allergy than published. Further studies are needed to confirm our findings on both inpatients and outpatients.