

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

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BACKGROUND

- Penicillin allergy is the most frequently reported drug allergy.
- While 10% of patients¹ claim to be allergic, only 1% have a true penicillin allergy.
- Penicillin allergy labels are associated with use of broader spectrum antibiotics and "increased rates of Clostridium difficile, vancomycin-resistant Enterococcus, and methicillin resistant Staphylococcus aureus"⁴.
- Previous literature has also shown increased hospital length of hospital stay and cost in patients with reported penicillin allergy⁵
- Multiple drug allergy has been shown to be of higher incidence in the overweight population³.
- 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 down-regulation of T-reg cells⁵.

RATIONALE

- There are no studies on the incidence of penicillin allergy in obese patients.
- The goal of this article is to establish the prevalence of penicillin allergy in obese inpatients and compare to the prevalence of penicillin allergy in the general population.

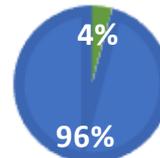
METHODS

- The 2012-2014 National Inpatient Sample data base (NIS) was used to select obese patients. ICD 9 code V14.0 was used to determine the number of obese subjects with history of penicillin allergy. Characteristics of the isolated cases were collected.

RESULTS

OBESE SUBJECTS WITH DOCUMENTED PENICILLIN ALLERGY

■ Documented penicillin allergy ■ No penicillin allergy



Total number of patients with a documented penicillin allergy
N= 96027(4.2%)
Significantly less than 10.0% from published reports (p<.001)

DISCUSSION

- To our knowledge, this is the first study evaluating documented penicillin allergy in inpatient obese patients.
- While we anticipated that obese subjects would have a higher prevalence of documented penicillin allergy than the general population, we found the opposite to be true.
- While previous data has shown increased atopy in obesity, it may be that drug allergy is not associated with increased risk of atopy.

CONCLUSION

- The prevalence of documented penicillin allergy in the inpatient subset of obese patients is significantly less than that reported in the general population. Further analysis on how these patients differs should be further explored.

REFERENCES

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Patient characteristics

Total number of patients	2268842
Mean Age	57.9 years
Female	72.0%
White	68.5%
Black	16.2%
Hispanic	8.0%
Asian	0.7%
Native American	0.6%