

Association between psoriasis and chronic bronchitis among U.S. adults in the 2009-2014 National Health and Nutrition Examination Survey

Sara Osborne, BS,¹ Olivia Kam, BA,² Raquel Wescott, BS,³ Carolynne Vo, BS,⁴ Shivani Thacker, DO,⁵ Jashin Wu, MD,⁶

¹University of Minnesota, Twin Cities School of Medicine, ²Stony Brook School of Medicine, ³University of Nevada, Reno School of Medicine, ⁴University of California Riverside School of Medicine, ⁵KPC Hemet Medical Center, ⁶University of Miami Miller School of Medicine
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Background

- Psoriasis, a cutaneous inflammatory disease, has been associated with other inflammatory conditions, such as chronic obstructive pulmonary disease (COPD) [1,2].
- Although COPD can include conditions such as chronic bronchitis, not all cases of chronic bronchitis are classified within the scope of COPD [3].
- An Italian study found increased rates of chronic bronchitis among individuals with psoriasis [4], but there is a lack of research in US populations.

Objective

Our study aimed to investigate the connection between psoriasis & chronic bronchitis in U.S. adults over 20 years old, a relationship seldom explored separately from the broader context of COPD.

Methods

We utilized the latest accessible data from the National Health and Nutrition Examination Survey (NHANES) for psoriasis (2009-2014). Multivariable logistic regression analyses were performed using STATA/SE 18.0.

Results

Psoriasis	Chronic Bronchitis (weighted %)*	AOR (95% CI)	P value
All participants (20-59 years old)			
Yes	56/502 (9.2)	1.51 (1.05-2.18)	0.029
No	870/16,998 (5.4)	1.00 (Reference)	
Females			
Yes	38/256 (13.2)	1.73 (1.15-2.58)	0.009
No	590/8769 (7.1)	1.00 (Reference)	
Males			
Yes	18/246 (4.7)	1.07 (0.48-2.41)	0.866
No	280/8229 (3.5)	1.00 (Reference)	
Ages 20-39			
Yes	11/136 (7.1)	1.92 (0.95-3.88)	0.067
No	208/5850 (3.6)	1.00 (Reference)	
Ages 40-59			
Yes	23/180 (9.1)	1.48 (0.68-3.22)	0.320
No	289/5655 (5.6)	1.00 (Reference)	
Ages 60-79			
Yes	19/152 (12.4)	1.56 (0.87-2.78)	0.132
No	304/4309 (7.7)	1.00 (Reference)	
Ages 80+			
Yes	3/34 (5.1)	0.61 (0.08-4.47)	0.624
No	69/1103 (6.8)	1.00 (Reference)	

Table I: Association between psoriasis and chronic bronchitis among adults in NHANES 2009-2014

SUMMARY OF FINDINGS:

- 17,500 individuals met inclusion criteria (47 were excluded)
- The prevalence of chronic bronchitis in patients with psoriasis was 9.2%, compared to 5.4% in patients without psoriasis (Table I).
- There was a significant association between psoriasis and chronic bronchitis among patients aged 20 and older, and among women after adjusting for potential confounding variables (Table I).

Conclusion

- There was a statistically significant association between psoriasis and chronic bronchitis, which remained significant after controlling for smoking and obesity.
- This may be due to the IL-23/Th17 axis, which is active in psoriasis and contributes to the production of IL-17, a cytokine known to trigger mucous metaplasia in chronic bronchitis [5].
- Women being more affected may reflect the generally higher prevalence of chronic bronchitis in women, though more focused research to understand the reasons behind this gender disparity in the context of psoriasis [6].

References

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