

Hidradenitis Suppurativa and Opioid Use: A Systematic Review

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Introduction

Hidradenitis suppurativa (HS) is a chronic destructive inflammatory condition that presents on intertriginous skin and affects women more than men. This disorder of the hair follicles is commonly painful: patients with HS also report neuropathic pain, characterized by “stinging,” “burning,” and/or “itchy” sensations caused by nerve damage or pressure. Though there is not an established regimen to mitigate the discomfort of HS flare-ups, a variety of biologics, NSAIDs, and/or opioids are prescribed by providers. Given the rise in opioid prescriptions worldwide and increasing evidence to suggest that HS is associated with substance use disorder, this systematic review seeks to analyze the relationship between HS and opioid use.

References
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Garg A, Papagermanos V, Midura M, Strunk A, Merson J. Opioid, alcohol, and cannabis misuse among patients with hidradenitis suppurativa: A population-based analysis in the United States. *J Am Acad Dermatol.* 2018;79(3):495-500.e1. doi:10.1016/j.jaad.2018.02.053
McMillan K. Hidradenitis suppurativa: number of diagnosed patients, demographic characteristics, and treatment patterns in the United States. *Am J Epidemiol.* 2014;179(12):1477-1483. doi:10.1093/aje/kwu078
Reddy S, Orenstein LAV, Strunk A, Garg A. Incidence of Long-term Opioid Use Among Opioid-Naïve Patients With Hidradenitis Suppurativa in the United States. *JAMA Dermatol.* 2019;155(11):1284-1290. doi:10.1001/jamadermatol.2019.2610

Results

Four studies were included in our qualitative analysis (Andersen, Garg, Mcmillan, Reddy). Overall, three studies reported a significant positive association between opioid use and HS (Andersen OR 1.34, 95% CI 1.01-1.76, p<0.05; Garg OR 2.43, 95% CI 2.21-2.67, p<0.05; Reddy OR 2.36, 95% CI 1.87-2.99, p<0.05). Additionally, there appears to be a gender propensity, as three studies found that there was a significantly higher number of HS females using opioids compared to controls (Andersen OR 1.67, 95% CI 1.47-1.90, p<0.05; Mcmillan OR 1.87, 95% CI 1.41-2.48, p<0.05; Reddy OR 2.16, 95% CI 1.62-2.87, p<0.05). Three studies examined psychiatric disorder prevalence (Andersen, Garg, Reddy), and two studies concluded that there was a significant positive association with opioid users having concurrent psychiatric disorder(s) and HS (Andersen OR 2.24, 95% CI 1.52-3.28, p<0.05; Reddy OR 2.98, 95% CI 2.89-3.07, p<0.05).

The racial distribution of studies was defined differently, and interestingly, demonstrated a predominance in white patients despite the characteristically higher prevalence of HS in black patients. One study classified “white” versus “non-white,” and found that there was a higher prevalence of HS in white patients (Garg). A second study concluded that the rate of HS was greater in “white/other” patients as compared to “black” patients (OR 3.25, 95% CI 2.52-4.21; p<0.05) (Mcmillan). Another study with a predominance of white HS patients found that there was a significant positive association between white HS patients and opioid use (OR 1.81, 95% CI 1.36-2.41; p<0.05); in contrast, no such association was found for black and “other” patients (Reddy). There is currently not enough literature on other ethnic groups, such as Asians.

Methods

The Cochrane, PubMed, EMBASE, and Medline (Ovid) databases were searched for the relevant studies from the date of inception to June 2021. Case-control, cross-sectional, and cohort studies examining the effects of opioid use on HS, available in English full-text, were included. Boolean operators were utilized, keywords that included (but not limited to) “Hidradenitis suppurativa,” “opioid use,” and common opioids, along with each respective database’s controlled vocabulary as part of our search strategy.

Next Steps

Overall, our analyses indicate that there is a positive association between opioid use and HS. This relationship seems to be influenced by various demographic, health, and lifestyle factors. However, further quantitative studies and a potential meta-analysis are needed to support these conclusions.

Study Population Characteristics: HS and Opioid Use										
			Total No. of Patients		% Female		% Psychiatric Disorder		% Non-white	
Source	Study Setting	Study Design	Control	HS Cases	Control	HS Cases	Control	HS Cases	Control	HS Cases
Andersen 2021	Denmark	Retrospective case-control study	52,196	1,012	48.4%	61.1%	1.3%	2.8%	N/A	N/A
Garg 2019	United States	Retrospective case-control study	9,581,640	32,625	58.5%	76.0%	8.0%	18.8%	21.4%	39.0%
Mcmillan 2014	United States	Retrospective case-control study	886,124	236	57.5%	64.9%	N/A	N/A	19.8%	22.9%
Reddy 2019	United States	Retrospective cohort study	828,832	22,277	61.8%	75.9%	11.6%	28.2%	11.0%	33.0%