

Pain management and emergency care in adolescent patients with hidradenitis suppurativa: a cross-sectional hospital-based study

Keywords: adolescence, emergency department, hidradenitis suppurativa, pain management, pediatrics

Most studies to date that have addressed emergency care and pain management in the setting of Hidradenitis suppurativa (HS) have focused on adults and provide scant if any data on pain management in adolescents.¹⁻⁴ To better understand how pain associated with HS is managed in emergency settings, we performed a cross-sectional study of all patients between 13 and <19 years of age seen in the Rady Children's Hospital-San Diego emergency department (ED) for HS-related care between February 2011 and February 2021. Patients outside of the age range at the time of the initial ED visit and without a documented diagnosis of HS were excluded. Patient demographics, documented pain scores (0–10 scale, from the pain visual analog scale), prescribed pain medications, medical vs. surgical management, and follow-up data were collected and analyzed. This study was approved by University of California San Diego Institutional Review Board.

HS-related ED visits were documented in 95 patients and accounted for a total of 193 visits. Patients were mostly female 78.9% (n = 75) and identified as Hispanic/Latino 66.3% (n = 63), Non-Hispanic White 11.6% (n = 11), and Black/African American 17.9% (n = 17) (Table 1). Compared with other adolescent patients with HS, those who received care in the ED were younger (14.9 years vs 16.4 years) and made up of a higher portion of individuals who identified as Black/African American (17.9% vs 6.8%) and Hispanic/Latino (66.3% vs 53.4%). Few patients (n = 15, 15.8%) were hospitalized. The majority (85.3%) did not have a documented HS diagnosis on the initial ED encounter. Depression was present in 11.6% (n = 11) of patients with HS-associated ED visits compared to 10.0% (n = 40) in the entire HS adolescent cohort. Of the 193 ED visits, 43.5% (n = 84) were managed surgically with incision and drainage or excisional debridement.

The mean recorded pain score in the ED was 6 (SD 3.5) with pain medications administered in 47.9% (n = 90) of encounters (Fig. 1). The most common pain medication administered in the ED was ibuprofen (29.3%), followed by hydrocodone-acetaminophen (10.1%) and acetaminophen (7.4%). The mean pain score for the procedure group was 7 (SD 3.1) whereas those managed conservatively was 5 (SD 3.6). Among the patients who were prescribed pain medications at discharge (23.8%, n

= 43 ED visits), ibuprofen was most common (8.8%), followed by hydrocodone-acetaminophen (7.3%) and acetaminophen (3.1%). Of the 73 patients (76.8%) with documented follow-up after discharge at the initial ED encounter, 42 patients were seen by general surgery, 28 by dermatology, 3 by plastic surgery, and 1 by gynecologic surgery. Patients with 3 or more ED visits (n = 18) were more likely to be hospitalized at some point in their care ($P = 0.04$) and ultimately receive care from a dermatologist ($P = 0.03$).

For adolescent patients with HS, pain is a frequently reported symptom in the ED. Emergency care providers appear central to coordinating procedural intervention and outpatient follow-up for this population. The disparate utilization of ED services that we observed in part reflects the relatively high proportion of youth identified as Black/African American and Latino/Hispanic diagnosed with HS in the San Diego metropolitan area.⁵ Structural alternatives are needed to better address patient well-being and barriers to accessing appropriate care. Definitive HS diagnosis nearer to symptom onset, counseling regarding the appropriate use of non-steroidal anti-inflammatory drugs for pain control, and coordination between pediatric specialties (general surgery and dermatology) have the potential to yield better care for adolescent patients living with HS.

Conflicts of interest

None.

What is known about this subject in regard to women and their families?

- Female adolescents are disproportionately affected by hidradenitis suppurativa (HS), leading to significant physical impairment and psychosocial distress.
- Uncontrolled pain is commonly reported in adult women with HS who seek care in the emergency department; however, data in pediatric patients is limited.

What is new from this article as messages for women and their families?

- For female adolescents with HS, pain is a frequently reported symptom in the emergency department.
- Evidence-based guidelines for pain management in adolescent patients with HS are needed to optimize pain control and decrease reliance on HS-related care by emergency department providers.

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Table 1

Adolescents with a diagnosis of HS and ED care

Patient characteristic	Adolescents with a diagnosis of HS who received care in ED (N = 95)	Adolescents with a diagnosis of HS who did not receive care in ED (N = 399)	P-value*
Average age at HS diagnosis, years (range)	14.9 (13.0–18.6)	16.4 (13.0–18.9)	<0.001*
Sex, N (%)			0.96
Male	20 (21.1)	85 (21.3)	
Female	75 (78.9)	314 (78.7)	
Ethnicity/race, N (%)			<0.001*
Hispanic or Latino	63 (66.3)	213 (53.4)	
Asian and Pacific Islander	0 (0)	13 (3.3)	
Black/African American	17 (17.9)	27 (6.8)	
Non-Hispanic White	11 (11.6)	91 (22.8)	
Other/decline to answer	4 (4.2)	55 (13.8)	
Mood disorders, N (%)			0.66
Depression	11 (11.6)	40 (10.0)	
Anxiety	7 (7.4)	20 (5.0)	

ED, emergency department; HS, hidradenitis suppurativa.

*P < 0.05 was considered statistically significant.

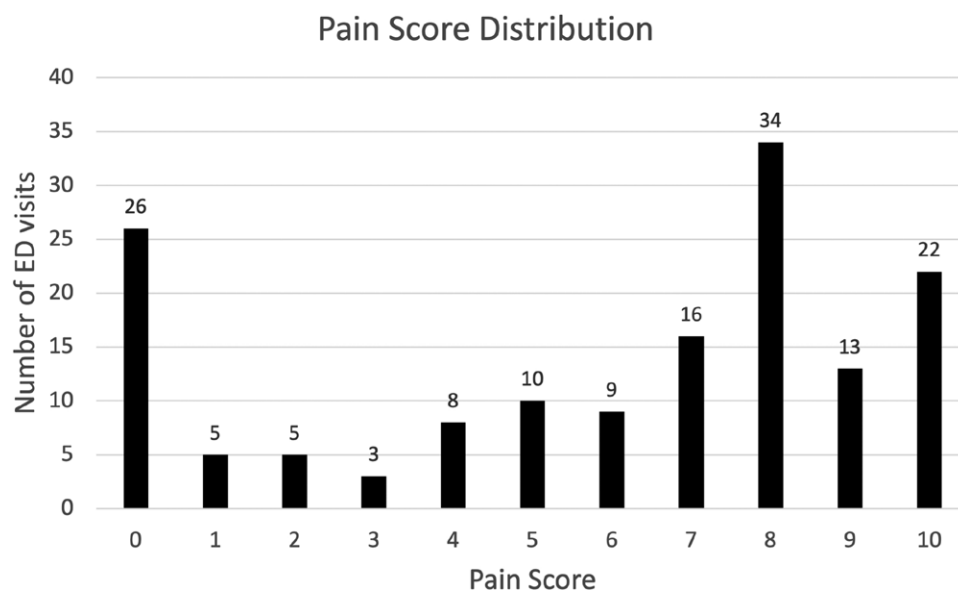


Fig. 1. Pain score distribution during HS-associated emergency department visits (n = 151 with available pain scores).

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Study approval

Reviewed and approved by University of California San Diego IRB; approval #200845.

Author contributions

HP: Research design, writing of the article, performance of research, data analysis. CV: Research design, performance of research, writing of the article. KP, KN, and EK: Research design, performance of research. RI: Research design, writing of the article, data analysis, supervision. GH: Research design, writing of the article, performance of research, data analysis, and supervision.

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References

1. Taylor MT, Orenstein LAV, Barbieri JS. Pain severity and management of hidradenitis suppurativa at US Emergency Department Visits. *JAMA Dermatol.* 2021;157:115–7. doi:10.1001/jamadermatol.2020.4494.
2. Alikhan A, Sayed C, Alavi A, et al. North American clinical management guidelines for hidradenitis suppurativa: a publication from the United States and Canadian Hidradenitis Suppurativa Foundations: part I: diagnosis, evaluation, and the use of complementary and procedural management. *J Am Acad Dermatol* 2019;81:76–90. doi:10.1016/j.jaad.2019.02.067.
3. Ingram JR, Collier F, Brown D, et al. British Association of Dermatologists guidelines for the management of hidradenitis suppurativa (acne inversa) 2018. *Br J Dermatol* 2019;180:1009–17. doi:10.1111/bjd.17537.

4. Zouboulis CC, Bechara FG, Dickinson-Blok JL, et al. Hidradenitis suppurativa/acne inversa: a practical framework for treatment optimization - systematic review and recommendations from the HS ALLIANCE working group. *J Eur Acad Dermatol Venereol* 2019;33:19–31. doi:10.1111/jdv.15233.
5. Vuong CL, Park HH, Zhang S, Conic RRZ, Hightower GK. Neighborhood-based analysis of adolescent hidradenitis suppurativa prevalence in a large metropolitan area. *JAAD Int* 2022;9:80–1. doi:10.1016/j.jdin.2022.08.015.

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