MEDICAL EDUCATION

Gel Antiperspirants for Hidradenitis Suppurativa: A Pilot Study

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ABSTRACT

Introduction: Hidradenitis suppurativa (HS) is a chronic inflammatory condition predominantly affecting intertriginous areas. Despite its association with sweat, the role of deodorants and antiperspirants in HS remains poorly defined, with many patients avoiding their use due to concerns about irritation.
Methods: After experiencing personal clinical improvement with a gel-based aluminum salt antiperspirant, a dermatology resident began recommending similar gel-based aluminum salt antiperspirants to patients with Hurley stage I HS. Outcomes were tracked in seven patients. Additionally, a TikTok video was posted discussing gel antiperspirant use in HS, and user comments describing personal experiences were reviewed. A literature review was later conducted using PubMed, Scopus, and Web of Science.
Results: All seven patients experienced complete resolution of axillary HS lesions after initiating gel antiperspirants, including those who had failed previous treatments. Among 16 TikTok commenters who described their experiences, 94% reported disease improvement or clearance with gel or spray antiperspirants, while only 6% reported worsening with spray and/or gel antiperspirant. The literature revealed limited evidence, with three prior studies cautioning against antiperspirants despite some data suggesting spray and gel vehicles may be better tolerated than solid sticks.
Conclusion: Gel antiperspirants containing aluminum compounds appear safe, well-tolerated, and effective for managing or use in mild HS. These findings challenge prior concerns about antiperspirant use and suggest that product vehicle plays a key role in symptom control. Spray and gel formulations are preferable to solid sticks, and laser hair removal is favored over shaving. Prospective studies are warranted to formalize hygiene guidelines in HS management.

INTRODUCTION

Hidradenitis Suppurativa (HS) is a chronic, inflammatory skin disease marked by recurrent, painful nodules, abscesses, and sinus tracts, primarily in intertriginous regions

such as the axillae, groin, and inframammary folds.[1] HS management is based on the Hurley staging system, which classifies the severity of hidradenitis suppurativa into three stages. Stage 1, the mildest severity, is characterized by solitary or multiple abscesses and no sinus tracts or scarring. Stage 2 involves recurrent abscesses, and the formation of sinus tracts, and scarring; these lesions may be widely separated. Stage 3, the most severe form, is characterized by diffuse or near-diffuse involvement with numerous interconnected sinus tracts, abscesses, and extensive scarring. HS significantly impairs quality of life yet remains underdiagnosed despite affecting an estimated 1-4% of the general population, with a higher prevalence in women.[2,3,4]

HS pathogenesis is multifactorial, involving follicular occlusion, immune dysregulation, and environmental triggers.[5] The condition is increasingly recognized as a disorder of the hair follicle, with hyperkeratosis and follicular rupture initiating a cascade of inflammation.[1] Elevated levels of cytokines such as TNF-α, IL-1β, and IL-17 are found in lesional skin, and targeted biologics have become valuable therapeutic options.[2] Despite new and emerging therapies, HS remains challenging to treat.[6]

Environmental and mechanical factors—particularly friction, moisture, obesity, and smoking—contribute to disease exacerbation.[7] Given the disease's localization to sweat-prone areas, the use of antiperspirants and deodorants has long been debated without firm evidence, leaving patients uncertain how to manage body odor.[8,9] Antiperspirants containing aluminum salts physically block eccrine sweat glands by forming a gel plug, thus obstructing the sweat from reaching the skin surface.[10] Alternatively, deodorants reduce body odor through fragrances; some include antimicrobial agents that inhibit the growth of malodor-forming bacteria.[10] Many patients avoid these products due to concerns about irritation or exacerbation, yet there is limited research evaluating their actual impact in HS.[8,11,12]

This study aims to explore the role of antiperspirant/deodorant use in HS, addressing a significant gap in the current understanding of modifiable environmental factors in disease management.

METHODS

This case series was initiated following a clinical observation by a dermatology resident, who noted complete resolution of axillary Hurley stage I HS after use of a gel-based antiperspirant. Supported by anecdotal reports found on social media platforms, gel-based antiperspirants were recommended to patients presenting with Hurley stage I HS. A cohort of these patients have followed up and their outcomes are presented in this report. To further assess real-world patient experiences, the resident created a TikTok video discussing the use of gel antiperspirants in HS management. All user comments describing personal use of gel antiperspirants were reviewed and included in this study as patient-reported outcomes. To contextualize these findings, a literature review was conducted using PubMed, Scopus, and Web of Science databases using the search terms “antiperspirant,” “deodorant,” and “hidradenitis suppurativa.”

RESULTS

Case Series

Case 1

A 15-year-old Hispanic male presented for excision of an epidermal inclusion cyst and was diagnosed with dissecting cellulitis of the scalp and Hurley Stage 1 HS involving the bilateral axillary and inguinal regions. Oral minocycline and topical triamcinolone were initiated for the scalp. The patient reported using a commercially available fragranced deodorant and was advised to replace it with an aluminum-based gel antiperspirant containing 20% aluminum zirconium trichlorohydrex gly for underarms. At the 6-week follow-up, his axillary HS had resolved completely, but the HS lesions in his groin were persistent, suggesting a localized therapeutic effect of aluminum-based antiperspirants on HS. The dissecting cellulitis of the scalp showed partial improvement but remained unresolved.

Case 2

A 30-year-old African American female presented with bilateral axillary Hurley stage 1 HS. The patient tried and failed doxycycline and was prescribed a benzoyl peroxide wash while undergoing screening for participation in an HS clinical trial. After showing no improvement and not enrolling in the trial, she was advised to begin using an over-the-counter antiperspirant containing 16.4% aluminum zirconium octachlorohydrex gly. At follow-up 8 weeks later, complete resolution of HS lesions was noted, with no evidence of recurrence.

Case 3

A 13-year-old Hispanic female with a history of Hurley stage 1 HS reported alternating between different underarm antiperspirants/deodorants. At her mother's home she used an antiperspirant gel containing 17% aluminum zirconium octachlorohydrex gly, and at her father's house she used a fragranced deodorant. She reported that HS flares occurred exclusively following time spent at her father's residence. She was instructed to only use the antiperspirant. At a 12-week follow-up, she reported complete resolution of HS symptoms and no new flares since switching exclusively to the gel antiperspirant.

Case 4

A 30-year-old Caucasian male presented with small painful nodules in the left axilla that increased in size and number, eventually affecting the right axilla. The patient was diagnosed with HS, Hurley stage 1, and prescribed a 10-day course of doxycycline and instructed to use a benzoyl peroxide wash daily. Two weeks later, noticing minimal improvement, began using a gel antiperspirant containing 16% aluminum zirconium octachlorohydrex gly. Complete resolution occurred within one week, with no recurrence through his 6-month follow-up.

Case 5

A 55-year-old African American female with a history of HS presented to the clinic with no active lesions on exam. The patient started using antiperspirant gel containing 17% aluminum zirconium octachlorohydrex gly several years prior, achieving clearance with no symptom recurrence.

Case 6

A 15-year-old African American female presented with bilateral axillary HS, Hurley stage 1. She had used doxycycline and chlorhexidine gluconate wash (Hibiclens™) but her HS persisted. At the time of her appointment, she was using a solid stick antiperspirant and was advised to switch to a gel antiperspirant. At her 8-week follow-up, she reported rapid symptom relief and resolution of her lesions, with no further outbreaks.

Case 7

A 20-year-old African American male with bilateral axillary HS, Hurley stage I. He had

no prior treatments and was advised to begin application of a gel antiperspirant containing 18% aluminum chlorohydrate. At the 8-week follow-up the patient reported complete resolution of HS lesions around a week after initiation of the gel antiperspirant.

TikTok Testimonials

A TikTok video created by a dermatology resident physician, discussing the use of gel antiperspirants in hidradenitis suppurativa, was posted on February 8th, 2025. The video provides a brief overview of HS, the population at risk, and various gel antiperspirant brands containing aluminum salts that have improved patient symptoms. Sixteen comments from TikTok users who detailed their own experiences with gel antiperspirants were included (**Table 1**). Ten users (63%) reported improvement or clearance of HS symptoms with the gel antiperspirant. One user (6%) commented that, although HS symptoms are still minimally persistent, the gel antiperspirant helped achieve partial improvement compared to solid deodorants. Similarly, one user (6%) commented that while the gel antiperspirant doesn't completely clear their advanced stage of HS, it helped "more than anything." Three users (19%) commented that spray antiperspirant cleared their axillary HS with no flares since initiation, and one reported clearance of advanced disease (Hurley Stage 3). Only one user (5.9%) reported HS flares associated with the use of gel antiperspirant.

DISCUSSION

The use of deodorant in HS has long been debated, yet rarely clinically explored. One study demonstrated that deodorant did not initiate HS (the disease or flare-ups) compared to the control group; however, nearly 50% of surveyed patients reported consistent flare-ups following deodorant use.[8,12] Though this was less common among those with minimal disease, this is likely due to their overall lower flare-up frequency regardless of deodorant use. Similarly, higher disease severity was associated with a slightly increased—but not statistically significant—risk of symptom worsening, primarily in areas that were previously affected.[12] Despite nearly half of the patients reporting flare-ups after deodorant use, only 11.9% used HS-specific products.[12] Surveyed HS patients most frequently rated solid stick deodorants as harmful, spray deodorants as helpful, and clear gel as neutral or somewhat harmful, underscoring the need for tailored recommendations.[11,12]

Currently, there are no guidelines or recommendations on deodorant or antiperspirant use in patients with HS. As deodorant use is a societal norm for body odor hygiene, and literature on its use in HS is lacking, exploratory trials of deodorant/antiperspirant use in HS patients with reported outcomes are crucial to developing standard hygiene practices in this population.

Our case series details follow-up results of seven patients with HS Hurley Stage 1 who achieved clearance after using various brands of aluminum-based gel antiperspirants for HS. Some patients achieved clearance with gel antiperspirants after traditional treatments were ineffective, and one showed HS clearance in the axilla with gel antiperspirant while the inguinal HS persisted. Furthermore, TikTok user testimonials revealed that gel antiperspirant improves or clears HS in mild cases (Hurley Stage I) and partially improves HS in severe cases (Hurley Stage 3). Other users commented that spray antiperspirants

Table 1. TikTok user comments on HS gel antiperspirant video.

TikTok User	Comment Quote	Summary	Age	Sex	Race	Other Notes
User 1	I've used gel antiperspirant since 6th grade and didn't have any HS symptoms, but switched to various natural deodorants and it caused me to get so many boils under my arms. Started the gel again haven't had a problem since.	Previously symptom-free using gel, HS returned after switching to natural; resumed gel with success	N/A	F	N/A	
User 2	I'm on day 3 of trying this after seeing your video and I'm noticing a huge improvement today. I'm newly diagnosed, stage 1, and have had nonstop recurring flares in both armpits since December	Newly diagnosed (stage 1), early report of significant improvement	N/A	F	N/A	Noted improvement after 3 days of gel use
User 3	Gel antiperspirant with my HS is a big no. Any antiperspirant is a no. The effect it has on my skin causes my HS to flare so much worse than any other trigger. I have no tolerance to any deodorant and have to wear bandages underarms.	Strong negative reaction to all antiperspirants, including gel in severe HS.	N/A	F	Hispanic	
User 4	I never even realized... I've used the same gel antiperspirant for years now and I haven't had a 'cyst' (that's what I call them but I know they're not cysts) in so long. I never made this connection.	Unaware of gel's role until now; realized lack of flares may be linked to consistent use	N/A	F	Caucasian	
User 5	Listen I've not had medication for it for like 7 years. I had surgery to remove some glands. Every time I used regular antiperspirant they get clogged. Every time I use gel it 100% helps so so so much	No medications for 7 years, post-surgical; gel antiperspirant prevents clogs	N/A	F	N/A	
User 6	I agree it has helped me a lot	Confirmation of benefit of gel antiperspirant for HS.	N/A	N/A	N/A	Calls HS flares "cysts"; hadn't previously considered absence of flares since using gel
User 7	For me I think it works. I still get some bumps but even when my dermatologist said it doesn't matter, in my experience I'm getting less bumps after the antiperspirant in gel. The bar didn't help me.	Partial improvement; reports fewer bumps with gel versus bar	N/A	F	N/A	Thinks gel antiperspirant triggered HS; new to condition

User 8	I got HS a few years ago. I tried all the popular brands, and the sores just would not go away. Then tried Ban and haven't had a sore/welt sense.	Complete resolution of HS after trying Ban gel antiperspirant	N/A	F	N/A	
User 9	You are correct. I used to use (sometimes still do) the Gel form of Men's Mitchum, and it does help tremendously.	Gel form of Men's Mitchum helps HS symptoms	N/A	F	African American	
User 10	I used the same antiperspirant deodorant and it helps	Gel antiperspirant deodorant helps	N/A	F	N/A	Responding to TikTok User 1
User 11	I was told not to use stick Deodorant or antiperspirant…I was told to only use spray. Since I switched to spray, my armpits have cleared.	Clearance in armpit after switching to spray.	N/A	F	Caucasian	
User 12	Yes! I'm stage IV and started spray and I have only 2 tiny places left in my arms. Been using spray for about a year now. Life altering! Now for the rest of my body!!!!!	Severe HS improved with spray.	N/A	F	Caucasian	Responding to TikTok User 11
User 13	…I switched to spray and noticed a big difference its more hygienic my derm told me to rotate panoxyl with hibiclens every day and it's fantastic worked so well for my armpits haven't had a flare up in years in that area	Spray with panoxyl and hibiclens daily rotation worked for armpits, no flare in years.	N/A	F	N/A	Responding to TikTok User 11
User 14	Mitchum gel unscented does help. It doesn't cure the worst cases of HS but it definitely does help more than anything.	Doesn't clear advanced HS but helps.	N/A	N/A	N/A	
User 15	Yes! I tried used a natural deodorant, and I ended up with horrible sores under my arms. Since going back to gel deodorant, I've not had a problem	Sores with natural deodorant, cleared with gel.	N/A	F	N/A	
User 16	I used spray powder deodorant that my parents bought and used, I kept getting knots and thought it was ingrown hairs, but I switched to secret gel and never had another one since. It's no coincidence	No HS symptoms after switching to secret gel.	N/A	F	Caucasian	

F, Female; *HS,* Hidradenitis suppurativa; *N/A*, not available.

improved HS in mild to severe cases. One user with severe HS reported adverse reactions to spray and gel antiperspirants.

Aluminum-based agents for hyperhidrosis, particularly aluminum chloride hexahydrate, have traditionally been discouraged in HS patients due to concerns about skin irritation and adverse effects.[9,13] In some cases, irritant dermatitis is so severe that, despite clinical efficacy for hyperhidrosis, aluminum chloride hexahydrate must be discontinued.[13] However, case reviews observed that when 15% aluminum chloride hexahydrate was

combined with 2% salicylic acid patients who had failed aluminum chloride hexahydrate achieved excellent efficacy with minimal irritation.[13]

It has been suggested that metallic antiperspirants enter the terminal eccrine duct, combine with intraductal keratin, and induce a fibrillar (super) contraction that creates a functional closure of the intraepidermal eccrine duct, physically blocking sweat flow until normal keratin shedding resumes.[14] While considered safe, it has been recommended that those with HS avoid aluminum-based antiperspirants due to concerns about aluminum contact dermatitis of the axilla or potential blocking of the pilosebaceous unit (hair follicle, sebaceous gland, and arrector pili muscle).[1,15]

Aluminum zirconium octachlorohydrex gly is another active ingredient found in many antiperspirants. Although aluminum chloride hexahydrate has been shown to irritate patients, the reduced potency and different formulation of aluminum zirconium octachlorohydrex gly are less irritating and may alternatively have therapeutic benefits for HS.[16,17] One distinction is that aluminum chloride hexahydrate, an inorganic salt, is inherently more acidic compared to aluminum zirconium octachlorohydrex gly, a partially neutralized compound.[18] The higher acidity of aluminum chloride hexahydrate may be responsible for skin irritation, stinging, or burning sensations.[13] Similarly, aluminum zirconium octachlorohydrex gly blocks sweat ducts at a more superficial level, potentially leading to less irritation.[19] Without irritation, aluminum zirconium oxtachlorohydrex gly contributes to improvements in hyperhidrosis, thereby decreasing the risk of bacterial infection.[20] Additionally, the salt properties of the gel antiperspirant may similarly draw out water and dehydrate the sebaceous gland, resulting in reduced sebum production.[21]

While the science behind antiperspirant use in HS is unclear, the vehicle and formulation of deodorants and antiperspirants seems to play a role in exacerbating symptoms. Solid stick deodorants are occlusive and may contribute to follicular blockage in the folliculopilosebaceous unit, leading to rupture and an immune response.[22] Gel antiperspirants are less occlusive than solid sticks, which may alleviate symptoms and prevent flares in HS patients. Spray antiperspirants, more commonly used in Europe, are the least occlusive option and may carry the lowest risk of hair follicle blockage and rupture.[11] An immune response to rupture triggers an inflammatory cytokine cascade, and approved medications target key cytokines in this pathway.[1,2] Minimizing follicular occlusion is important to preventing the inflammatory cascade in HS and reducing reliance on immune-targeted therapy.

Despite concerns about axillary irritation from aluminum agents, HS patients appear to be more affected by the type of vehicle and method of hair removal. As studies show, HS patients reported worsening of symptoms with solid deodorants and razors compared to improved symptoms with spray deodorants and laser hair removal.[8,11,12] Our study demonstrates that aluminum zirconium octachlorohydrex gly-based gel antiperspirants are safe and non-irritating for a pilot cohort of HS patients with mild disease. Similarly, TikTok user testimonials support the notion that several brands of aluminum-based gel antiperspirants, including aluminum zirconium octachlorohydrex gly, aluminum chlorohydrate, and aluminum sesquichlorohydrate, are safe and effective for patients with HS, regardless of disease severity. While spray-based antiperspirants

and laser hair removal are currently among the most recommended hygienic practices for HS patients, our findings suggest that gel antiperspirants may also offer therapeutic benefit.

This study is limited by its small sample size, lack of a control group, and potential selection bias inherent in case series design. Outcomes were assessed through clinical observation rather than standardized severity scoring, and social media data were anecdotal, drawn from self-selected commenters, which may introduce selection and reporting bias. Despite these limitations, the study provides valuable preliminary insights and highlights important associations that warrant further investigation. Larger, controlled studies are needed to validate and expand on these findings.

CONCLUSION

The type of deodorant or antiperspirant vehicle, along with the method of hair removal, are important lifestyle factors to consider in managing HS. Over-the-counter aluminum-based gel antiperspirants have shown preliminary evidence of being a safe and effective treatment option for patients with both mild and severe hidradenitis suppurativa. Gel and spray antiperspirants appear to be more effective and better tolerated than solid stick deodorants in patients with HS. Laser hair removal or trimming should be used instead of razors for optimal depilation practices. Prospective studies of gel versus spray antiperspirants in HS patients (Hurley Stage 1-3) is recommended to strengthen guidelines for hygiene practices, disease course, and symptoms in this population.

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