Clinical Best Practices and Insights Toward Improving Recognition, Diagnosis, and Treatment of Primary Axillary Hyperhidrosis (PAH)

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SYNOPSIS

- Primary axillary hyperhidrosis (PAH) is an underdiagnosed and underreported condition with symptoms typically beginning before age 25 and persisting a lifetime[1-4]
- Patients report difficulties interacting with others due to excessive underarm sweating[5]

Reported experiencing constant worry about noticeable sweating[6]

70%

Reported that excessive sweating has had a negative impact on their social life[5,7]

1 in 2

Have never discussed their excessive sweating with a healthcare provider (HCP)[5,7]

- Patients with PAH report that their condition primarily affects[8]

Daily activities **Clothing choices** **Occupation**

OBJECTIVES

- To understand how PAH is identified, diagnosed, and treated, and to identify best practices aimed at optimizing patient-centric PAH care

METHODS

Literature Review

- An initial search of PubMed included the following terms: "hyperhidrosis," and "diagnosis," and/or "prevalence," and/or "quality of life," and "dermatology visits," and "United States" from January 2015 to August 2025
- An additional search queried "factors influencing topical drug compliance" from January 2015 to August 2025

Clinician Interviews

- From June to July 2025, Botanix medical affairs personnel interviewed 5 dermatology HCPs using unstructured discussions about best practices in the diagnosis and treatment of PAH

RESULTS

Key Literature Review Insights

- PAH symptoms appear around puberty/young adulthood, and diagnosis is often delayed[1-4,12]
- PAH is described as an "underreported[1-3]" or "underdiagnosed[1-4]" condition, or a "silent[13]" condition with patients "suffering unnecessarily[14]"
- PAH affects 10 million Americans and is as common as psoriasis,[15] but remains uncited as a primary reason for dermatology visits; for those <18 years, most visits were for acne, skin rash, or warts, and females were more likely to seek dermatology care[16-18]
- Reasons for PAH underdiagnosis included: lack of awareness, embarrassment, and/or communication issues/lack of HCP time[1,2,19]
- Delayed/lack of PAH treatment is associated with diminished quality of life (QoL), psychosocial distress, and functional or physical impairment[6.8.19]
- PAH topical medication regimens may be susceptible to non-adherence obstacles, adversely affecting treatment outcomes[20-23]

Key Practice Insights

- 3 physicians, 1 physician assistant (PA), and 1 nurse practitioner (NP) provided insights into the "typical" PAH patient presentation and suggestions for best practices
- Most patients with PAH initially present with PAH symptoms during an office visit scheduled for another condition; PAH diagnosis may be delayed or missed entirely
- Patients cite embarrassment and anxiety as reasons for not discussing PAH symptoms with an HCP, or feel the condition is not a "real" medical condition
- Patients often state they have tried and failed to manage PAH with over-the-counter treatments

Best Practices

BEST PRACTICE #1: Increase PAH recognition and diagnosis

- Provide PAH disease state educational resources in the waiting area to help patients self-identify PAH and use the Hyperhidrosis Disease Severity Scale (HDSS)[10,11] to screen all patients[14], especially those <25 years
- PAH patients tend to schedule dermatology visits for evaluation/treatment of other skin conditions; therefore, PAH educational material may foster conversations about excessive sweating
- The HDSS, a validated single-question diagnostic tool,[10,11] may capture patients who would otherwise be undiagnosed

HDSS Patient Screener

BEST PRACTICE #2: Use the ABCs to recognize PAH symptoms[24]

- **Age** of onset
- **Bilateral**
- **Cessation** during sleep
- **Duration** of sweat episodes, ≥2/week over 6 months
- **Episodes** vary in frequency and severity
- **Family**, often a blood relative had symptoms
- **Gets** in the way, interfering with activities and quality of life

A
B
C
D
E
F
G

BEST PRACTICE #3: Initiate conversations[1]

- Patients may be hesitant to initiate a conversation due to embarrassment or lack of awareness that PAH is a treatable disease
- Reassure the patient that PAH symptoms indicate a "real" medical condition that is treatable

BEST PRACTICE #4: Use a patient-centric shared decision-making approach to PAH treatment selection[1,8,12,22]

- Review various treatment options
- Recommend treatments that promote regimen adherence by selecting therapies that address cost, convenience, access, regimen frequency and complexity, potential severity of side effects, and optimal efficacy

BEST PRACTICE #5: Raise awareness

- PAH is as common as psoriasis but underrecognized
- Sharing best practices through case presentations fosters increased awareness among dermatology HCPs

PAH Diagnostic Tools

Diagnostic Criteria for PAH[9,10]

- PAH is diagnosed through a clinical assessment by an HCP based on diagnostic criteria (**Figure 1**)

Figure 1. Diagnostic Criteria for PAH

A diagnosis of primary hyperhidrosis requires excessive sweating lasting >6 months AND 2 or more of the following[9,10]:

- ☑ Excessive sweating more than 1x per week
- ☑ ≤25 years of age
- ☑ 1 or more blood relatives with excessive sweating
- ☑ Occurs in 1 or 2 areas
- ☑ Affects everyday activities, e.g., computer usage
- ☑ Stops while asleep

Hyperhidrosis Disease Severity Scale (HDSS)[10,11]

- Overview
  - The HDSS is a disease-specific, quick, single-question assessment with 4 grades of severity (**Figure 2**)
  - Provides a qualitative measure of the severity of the patient's condition based on how it affects daily activities and response to treatment
  - Questions may be posed to a patient in written or interview form
- Validity and reliability
  - Analyzed using 3 studies and found to have strong to moderate correlations with the Hyperhidrosis Impact Questionnaire (HHIQ), Dermatology Quality of Life Index (DLQI), and gravimetric sweat production (GSP)

- HDSS administration and scoring[7] (**Figure 2**)
  - Numbers next to statement indicate how a patient response should be scored
  - A score of 3 or 4 indicates severe hyperhidrosis, whereas a score of 1 or 2 indicates mild or moderate hyperhidrosis

Figure 2. Hyperhidrosis Disease Severity Scale (HDSS)[10,11]

"How would you rate the severity of your hyperhidrosis?"

- ☐ **1.** My sweating is never noticeable and never interferes with my daily activities
- ☐ **2.** My sweating is tolerable but sometimes interferes with my daily activities
- ☐ **3.** My sweating is barely tolerable and frequently interferes with my daily activities
- ☐ **4.** My sweating is intolerable and always interferes with my daily activities

https://www.sweathelp.org/pdf/HDSS.pdf

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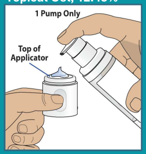
Best Practices in Action: Case Vignette 1

A 24-year-old female, CP, routinely visits a dermatologist for treatment of facial acne. During a recent office visit to a new dermatologist, CP sees a PAH disease education flyer in the office waiting area and brings it into the visit. CP hands the doctor the questionnaire and says " I have been bothered by sweating under my arms since the 6th grade. But I never mentioned it. My dad has this problem too. It's embarrassing and I hate it." The physician diagnoses CP with PAH using diagnostic criteria and the ABCs. CP asks "Can PAH really be treated? I've tried clinical strength drug store antiperspirants and prescription ones, too, but they never worked for me." After reassuring her that PAH can be treated, they discuss options most appropriate for CP. CP is a busy graduate student with commercial insurance but is concerned about cost and convenience. CP says she has "failed a bunch of acne treatments because the regimens were too complicated, expensive, and had too many steps. I want something that works, but I don't want to take pills or have obvious side effects like I did with some acne treatments that made my face red." The physician recommends sofpironium topical gel, 12.45% for her PAH. CP returns 3 weeks later and reports her underarm sweating has gotten "much better" and she has not experienced side effects, stating "It's been life changing for me."

Figure 3. Sofpironium Topical Gel, 12.45%[25]



Best Practices in Action: Case Vignette 2

A 19-year-old male with a past medical history of acne presents to a dermatology clinic for "acne type lesions" in his axilla. During the office visit, sweat is streaming from his axillae. Patient states "I'm sorry, this is embarrassing but seems to always happen to me." The PA responds "Please, do not be embarrassed at all, you are dealing with a very common medical condition known as PAH, which stands for primary axillary hyperhidrosis. That's the medical term for excessive underarm sweating. This is not your fault." The patient says he tried unsuccessfully to treat excessive sweating with over-the-counter treatments. The PA offers a treatment option for PAH: "There is a very effective prescription topical gel called sofpironium gel, 12.45%; I think this treatment might be a good option for you, because it is easy to use with mild to moderate side effects. Also, before you worry about cost, you should know the product is available at no cost with commercial insurance and can be delivered to you every month, with automatic refills." The patient returns in a few weeks for a follow-up visit and expresses his gratitude that his PAH is completely controlled; he is no longer embarrassed by his condition and expresses confidence in "living his life in the open."

Table 1. Rationale for Considering Sofpironium Treatment for These Patients

Key Criteria for Regimen Adherence[20-23]	Sofpironium Topical Gel, 12.45%[25]
Cost and access[20,21]	$0 copay and free delivery for commercially insured patients meeting specific terms and conditions;[26] covered by most commercial insurance
Convenience[20,21]	Free, discreet delivery to home from one pharmacy; auto-refill; web portal[26]
Regimen frequency[20,22]	Once a day at bedtime[25]
Regimen complexity – packaging[22]	1 metered pump to each axilla, touchless applicator[25]
Vehicle, odorless[22]	Gel, no odor[25]
Indication[20]	Treatment of PAH in patients ≥9 years[25]
Safety and side effects[20]	Contraindicated in medical conditions that can be exacerbated by anticholinergic effect of sofpironium. Warnings include urinary retention, control of body temperature, and blurred vision. Common adverse reactions (≥2%): dry mouth, vision blurred, application site pain, application site erythema, mydriasis, application site dermatitis, application site pruritus, urinary retention, and application site irritation[25]

CONCLUSIONS

- People with PAH may experience diagnostic delays, often seek treatment for other dermatologic conditions, and experience diminished QoL, psychosocial distress, and functional or physical impairment
- Dermatology HCPs are integral to the recognition, timely diagnosis, and optimal treatment of PAH
- Adoption of best practices in the diagnosis of PAH may help raise awareness and improve PAH outcomes
- Case vignettes, including those incorporating sofpironium topical gel, 12.45%, demonstrate use of best practices in real-life settings
- The proprietary sofpironium package applicator and metered-dose pump allow for precise application to the axilla, limiting product touch to the hands, applicator or other areas of the body, and may help patients overcome therapeutic adherence barriers frequently encountered with PAH treatments

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