



46TH ANNUAL EDUCATIONAL CONFERENCE



COLLABORATE. EDUCATE. ADVOCATE.

Spotlight on HS: Recognition, Treatment and Emerging Therapies in a Challenging Inflammatory Skin Disease



Wendy Peterson MSN, FNP, DCNP

CCHS Dermatology

CANP Educational Conference

March 2024

Intro

25 yr old female with “boils” erupting in her armpits since age 12.

These are terribly painful.

They smell and the drainage stains clothing.

Now they are showing up in her groin.

She was told she had a skin infection and had these drained in the ED and taken antibiotics.

They keep coming back.

What can you do for them?



axilla

This is Hidradenitis Suppurativa

An immune-mediated inflammatory skin disorder characterized by recurrent papules, plaques and abscesses.¹

It has severe impacts on quality of life, even when mild.^{2,3}



Spotlight on Hidradenitis Suppurativa(HS): Learning Objectives

- Improve recognition and diagnosis of HS
- Initiate treatment and referral appropriate to stage of disease
- Discuss lifestyle and nutrition interventions
- Recognize current and emerging treatments
- Provide patient education and support resources for patients with this condition

Two spotlights are positioned at the top corners of the slide, casting a yellow beam of light onto the central text. The beams converge towards the bottom center where a bright yellow oval highlights the concluding statement.

Why do we need a spotlight on HS?

Misunderstood

Underdiagnosed

Undertreated

Severe impacts on quality of life

Delays lead to progression of disease

We have **treatments, and more on the way**

Epidemiology and Demographics: Health Disparities in HS

Affects 1~4% of
persons globally

3:1 ♀:♂

US: African
American descent=
6.4%, Caucasian
3.4%⁶

Average age onset:
23

7-10 years to
diagnosis^{4,5,6}

Diagnosis often
3rd or 4th decade
of life^{4,5,6}

HS Severely Impacts Quality of Life for Patients^{2,3}

↑ Depression and Anxiety compared with healthy persons

Work: *m*34 days missed, 10% fired, 23% lost promotions

Pain, Pain, Pain and Itch

Worse sleep than people with Lupus, COPD or Hodgkins³

Reduced Self Esteem

Impaired sexual health

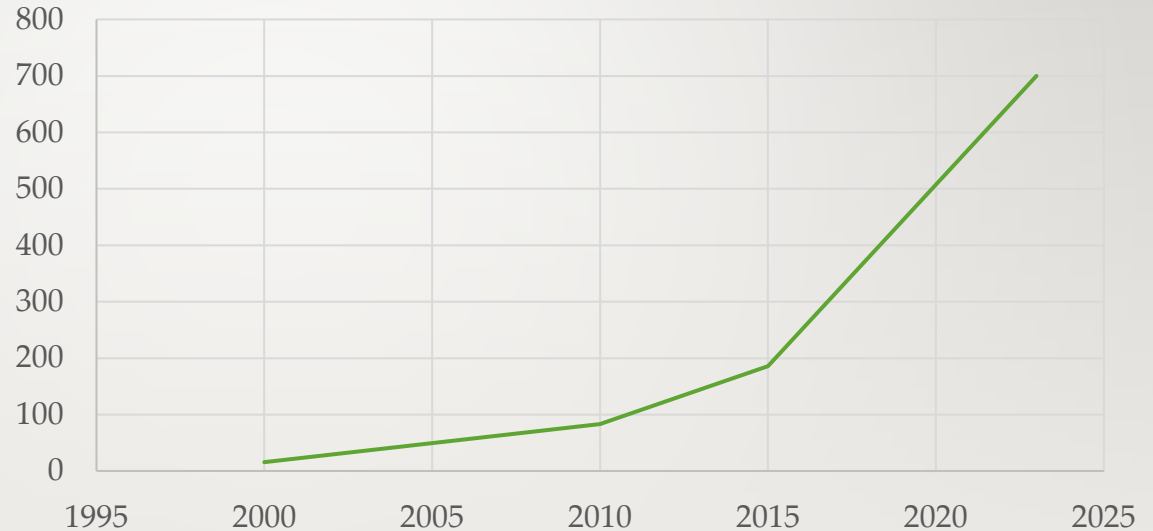
HS: Explosion of Research and Reviews

2000: 16

2010: 83

2023: 700

Source:
PubMed



1

Typical lesions: deep-seated painful papules, pustules, plaques or nodules, abscesses. May have tracking, scarring and actively draining sinuses from tunneling.

2

Typical distribution: axillae, inframammary, perineal, perianal, buttocks, posterior neck areas.

3

Recurrent and chronic

HS: Diagnostic Criteria

HS Hurley Stages

Stage 1



Discrete lesions
without scarring

Stage 2



Multiple locations,
Scarring

Stage 3



Multiple locations,
Tunneling, tissue
destruction



Typical lesions:

Deep seated papules

Giant Comedones

Plaques

Nodules

Abscesses

Scars with tracking

Tunnels

HS: Patient Questionnaire

1) In the last 6 months, Have you had "boils" in your underarms, groin or genitals?

2) How Many? (≥ 2)

Sensitivity: 90 Specificity 97%

Positive Predictive Value: 96%



HS: Early Treatment Can Prevent Progression



HS is a Complex Immune-mediated inflammatory skin disorder:

Hormonal factors:
hyperinsulinemia,
hyperandrogenism,
cyclic flares

Mechanical factors: may
worsen with obesity,
friction, trauma

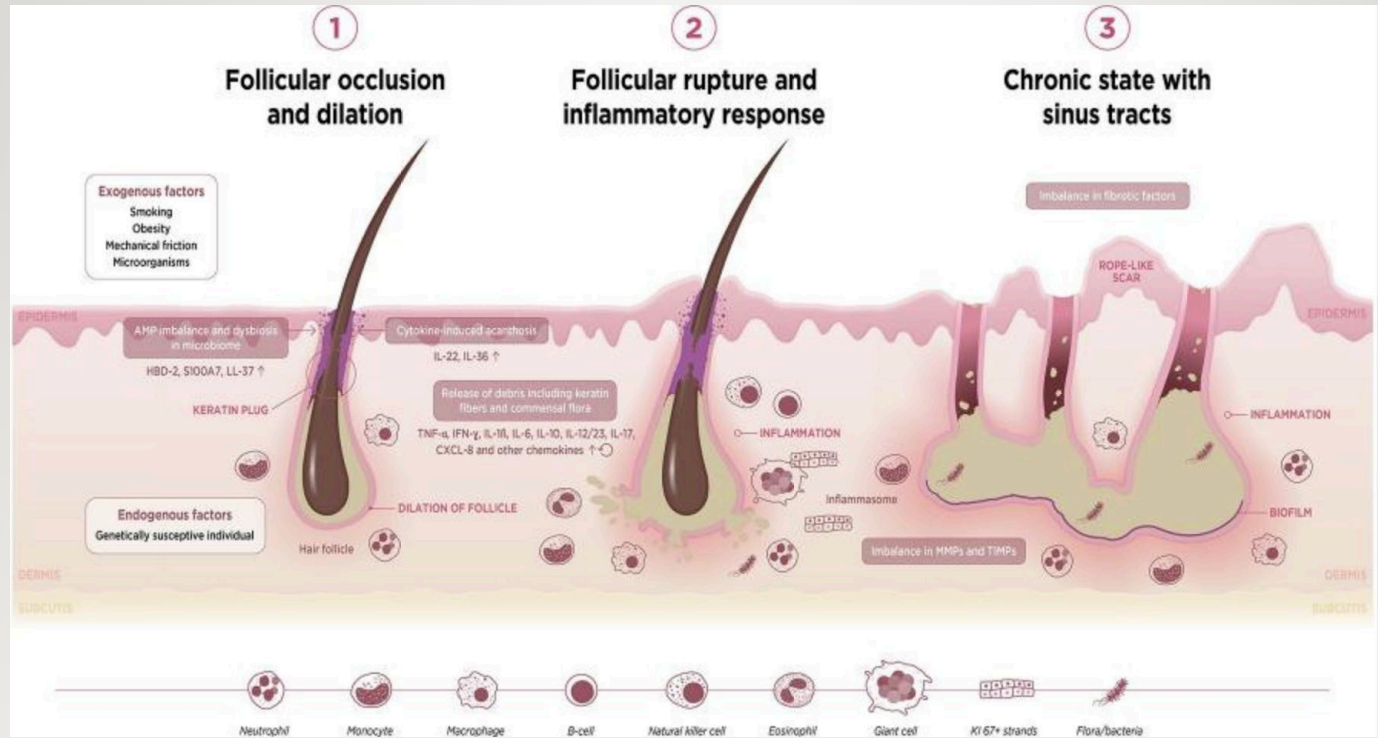
Inflammatory factors:
worsens with smoking,
insulin resistance, and
possible dietary triggers

Drugs: lithium

Genetic link: 35-40%
with have close relative
with HS*

*(Autosomal Dominant), dysfunction of γ -secretase

Pathophysiology of HS: Immunology



TNF- α
IFN γ
Interleukins:
IL 17
IL 12/23
IL 36
IL 1, 6, 10

HS Associated Conditions: Common^{1,13}

Obesity

Acne/Acne
Conglobata*

Metabolic
Syndrome

Hyperlipidemia

Sexual
dysfunction

Depression
(26% ↑)

PCOS

Trisomy 21 ↑7x

Dissecting
Cellulitis of the
Scalp*

Pilonoidal Cysts*

*Tetrad of follicular plugging= HS + DSC + conglobata + pilonidal cysts

Hurley Stage I

17 yo female presents to clinic with 2-year history painful “boils” to armpits.
ED offered I&D.

These can drain for weeks.

- Medications: Levonorgesterel/Estradiol
- BMI 20, A1C 5.9%
- ROS: irregular menses
- Fam hx: DM2
- Habits: no ETOH, nonsmoker



HS: Patient Education

- Not contagious
- Not an STI!
- Not a hygiene problem
- Happens in families
- Managed not cured
- Controller/Flare/Helper treatments
- Link to patient supports



HS PATIENT GUIDE

☰ CONTENTS ⬇️ DOWNLOAD 👤 AUTHORS

Edited by: Jennifer L. Hsiao, Vivian Y. Shi

Hidradenitis Suppurativa Patient Guide

<https://hspatientguide.com/>

HS Medical Management Overview

Hormone Modulators

- Spironolactone*
- Metformin*
- Finasteride*
- Low-androgen contraception

Adjunct

- Laser Hair removal
- Vitamin D repletion
- Zinc
- Topical washes and medications
- Dapsone*

Lifestyle and Comorbidities

- Smoking cessation
- Treat comorbidities
- Optimize blood sugars
- Diet changes
- Weight loss

Flare management

- Doxycycline
- Clindamycin/Rifampin
- Moxi/Metro/Rifampin
- intralesional triamcinolone
- Deroofing and punch debridement**
- oral prednisone
- Pain management

Biologics and Systemics

- Adalimumab
- Secukinumab
- Bimekizumab
- Infliximab*
- Ustekinumab*
- Risankizumab*

- JAKi*

HS Treatment: Hurley Stage I



- Patient education!
- Derm referral
- Topical BPO 10% wash or dial soap
- Clindamycin solution 1% BID prn
- Doxycycline 100mg bid x 4-6 wks
- Change to low androgenic coc
- Spironolactone 75mg daily*
- Check Vitamin D, Zinc, CBC, A1C

* If no contraindications such as renal insufficiency or taking LACE-I or ARB) & documenting that Spironolactone is off-label for HS

HS Medical Management Overview: Stage I

Hormonal

- Spironolactone*
- Metformin*
- Finasteride*
- Low-androgen contraception

Adjunct

- Laser Hair removal
- Vitamin D repletion
- Zinc 90mg daily
- Topical washes and medications

Flare management

- Doxycycline
- Clindamycin/Rifampin
- Moxi/Metro/Rifampin
- intralesional Kenalog
- Deroofing/local excision of lesions**
- Pain management

HS: Androgenetic activity of progestins¹³

Progestin	Androgenic Activity
Levonorgesterel	High
Norgesterel	High
Norethindrone	Medium
Norethindrone acetate	Medium
Ethynodial diacetate	Low
Norgestimate	None
Desogesterel	None
Drospirenone	Antiandrogenic

Hormone Modulators (off-label)

Spirolactone 75-200mg daily

Metformin 500mg bid

Finasteride 1-5mg daily

Low-androgen contraception

HS: Oral Antibiotics

Doxycycline

50mg-100mg BID for 7-10 days limited flare up to 12 wks
Take with food
Counsel on photosensitivity, GI upset
Birth control for persons capable of pregnancy

Clindamycin with or w/o Rifampin*

300mg BID for up to 12 weeks
Counsel to stop if diarrhea (C Diff risk)

Moxi/Metro/Rifampin¹

Moxifloxacin 400mg daily
Metronidazole 250-500mg TID
Rifampin 10mg/kg/day x 6 wks then d/c Metronidazole cont 4 wks

Decrease bacterial load, calm inflammatory response.

Pathophysiology of Hidradenitis

Follicular occlusion

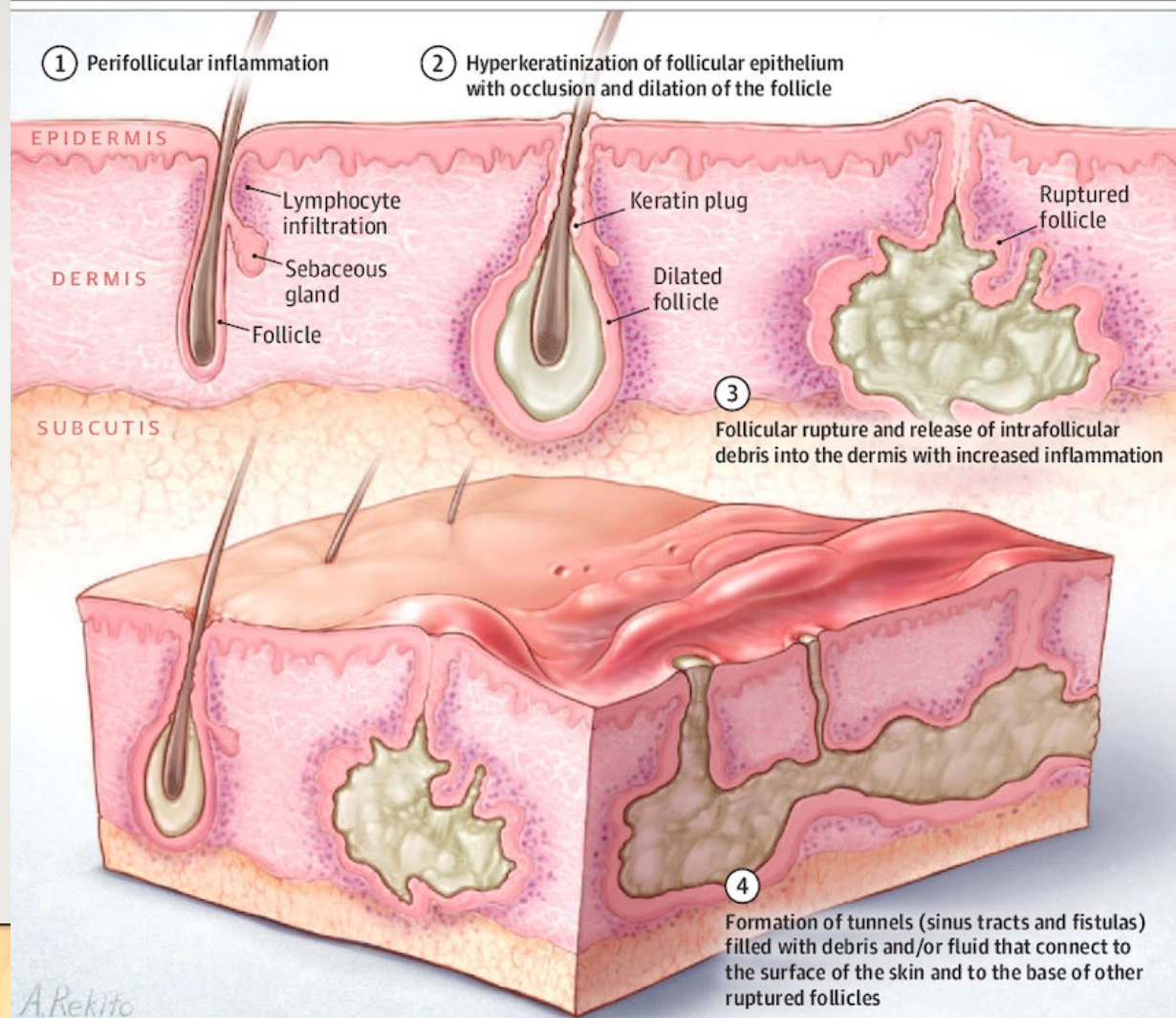


Follicular Rupture,
inflammatory response



Chronic inflammatory
state, tunneling and
drainage

(Source: Saunte et al)



Evidence-Based Lifestyle Modification^{1, 2, 14}

- Smoking cessation
- Loose clothing or wicking fabrics
- Optimize blood sugars
- Low Glycemic Index/High Fiber/Mediterranean Diet
- Weight loss when indicated

HS: Topical Treatments (all stages)

Antibacterial cleansers:

Benzoyl peroxide wash 5-10%

Chlorhexadine wash

Zinc pyrithione 2% shampoo

Dial soap

Lesion-based topicals:

Clindamycin 1% soln QD

Silvadene cream 1% QD

Resorcinol cream 15% (off label)

Emerging Evidence: Dietary Modifications and HS

Consider:

- Dairy avoidance
- Avoid added sugar and simple carbs
- Increase fiber
- Probiotics
- Brewer's yeast avoidance (for some)

SKIN

IN-DEPTH REVIEW

Nutrition Education Toolbox for Hidradenitis Suppurativa

Jennifer M. Fernandez MD, RD¹, Joi Lenczowski MD², Jennifer L. Hsiao MD³, Vivian Y. Shi MD⁴



Nutrition for Hidradenitis Suppurativa

Nutrition recommendations for hidradenitis suppurativa (HS):

- Maintain a healthy weight.
- **Recommended foods:** Anti-inflammatory foods such as vegetables, fruits, chicken, fish, whole grains.
- **Foods to limit or avoid:** Refined carbohydrates, dairy, alcohol.

Anti-inflammatory foods

What types of foods can fight inflammation? Fruits, vegetables, and foods high in omega-3 fatty acids (a type of healthy fat).

What foods are high in omega-3 fatty acids?

- **Animal sources:** Salmon, mackerel, herring, halibut, tuna, shrimp, cod.
- **Plant-based sources:** Flaxseed oil, chia seeds, walnuts, canola oil, wheat or oat germ, spinach, tofu, edamame, refried beans, kidney beans.

How much omega-3 fatty acids do I need? Eating fish 2x/week can help you get enough of this important nutrient.

Dairy

What is dairy? Dairy products are products made from animal milk such as cow's milk, cheese, cottage cheese, and yogurt. Eggs are not considered dairy products.

What happens if I limit dairy? Because dairy products are an excellent source of calcium and vitamin D, you may need to get these nutrients from other foods or supplements.

How much calcium and vitamin D do I need? Calcium: 1000-1200 mg/day. Vitamin D: 600-800 IU/day.

Can calcium affect absorption of medications? Yes. Calcium can decrease the absorption of zinc and certain antibiotics. Do not take calcium and zinc supplements together, or within 3 hours before or 1 hour after doxycycline or minocycline.

What are alternatives to dairy? Consider trying unsweetened, calcium-fortified soy milk, rice milk, or almond milk. Soy cheese and soy yogurt are also available.

Hurley Stage II



25 yo female. 6 years of symptoms.

Doxycycline x 6 wks

Metformin 500mg bid

Spiroglactone 150mg daily

Zinc 90mg, Vitamin D 1000IU

Clindamycin solution 1% prn lesions

Zinc Pyrithione 2% shampoo for body wash

Flares 2x month

Axillae, inner thighs, inframammary skin

Using Depo Provera for contraception

HS Medical Management Overview: Stage II/Moderate Disease

Biologics and Systemics

- Adalimumab
- Secukinumab
- Bimekizumab
- Infliximab*
- Ustekinumab*
- Risankizumab*
- JAKi*

Flare management

- Doxycycline
- Clindamycin/Rifampin
- Moxi/Metro/Rifampin
- Prednisone as bridge
- intralesional Kenalog
- In office surgical
- Surgical referral
- Pain management

Hurley Stage II: Management

- Change Doxy to Clinda
- Lower androgenic birth control method
- Prep for biologic
- Labs: Quant gold, CBC, CMP, Hepatitis screen, HIV, RPR, upreg, update history



Biologic Therapies in Hidradenitis: FDA Approved

Goal is to prevent spread tissue destruction, decrease pain, inflammation

Adalimumab 40mg SC weekly after loading

TNF alpha inhibitor

Improves symptoms up to 60% of patients by about 50%¹⁷

Secukinumab 300mg SC every two or every 4 weeks after loading dose

IL-17 inhibitor

SUNRISE and SUNSHINE trials showed 50% improvement using

HiSCR¹⁸

HS: Emerging Therapies/Under Investigation

>30 drugs currently in clinical trials

Phase 3 trials:

Bimekizumab- IL 17A/F

Spesolimab – anti IL 36

Porvocitnib – JAKi

Metformin

Spironolactone

Finasteride

57 studies in progress
as of 2023



Worsening HS Requires Medical *and* Surgical Treatment

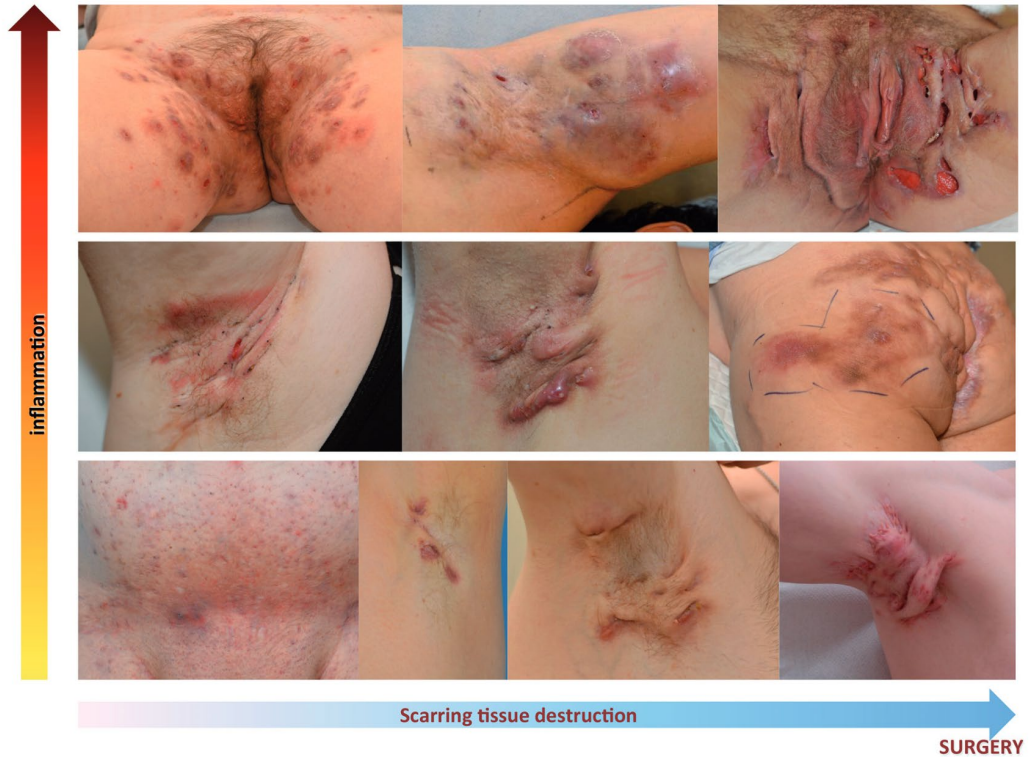


Fig. S1. The dual character of hidradenitis suppurativa (HS); inflammation and sinus tract formation.

Source: Horváth B, Janse IC, Blok JL, Driessen RJ, Boer J, Mekkes JR, Prens EP, van der Zee HH. Acta Derm Venereol. 2017 Mar 10;97(3):412-413

Hurley Stage III

36 yo male

Symptoms for 10 years

Abscesses to scalp (DSC*), armpits and buttocks

Scarring, tunneling

Unable to work due to the HS

Drainage and pain interfere with sleep & parenting

He has multiple antibiotic allergies, beta thalassemia and chronic iron deficiency anemia due to HS



*dissecting cellulitis of the scalp

Hurley Stage III: Management

Stacked therapy:

Topicals: BPO and diluted bleach baths

Intralesional kenalog prn 10mg/ml - flares

Clindamycin 300mg BID 6-12 wks- flares

Adalimumab stopped working after 18 mo

Moved to monthly Infliximab infusions

Next step- surgical excision of tunnels



*dissecting cellulitis of the scalp

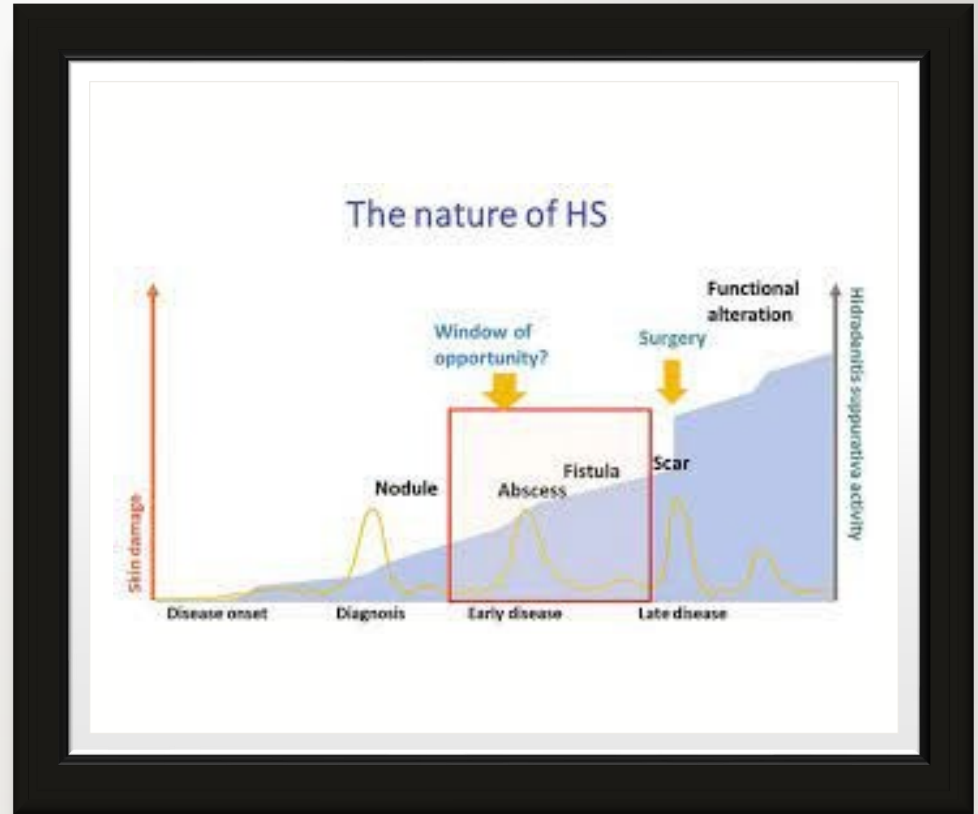
Hurley Stage III: Management

- Control inflammation with biologics, adjuncts
- Short term glucocorticoids for bridge therapy
- Short term Ertapenem for bridge to surgery/new controller
- Keep access open for flare treatment
- Multidisciplinary team
- More extensive surgery to remove tunnels

HS: Importance of Early Intervention

Martorell et al⁴ describe a “window of opportunity” to avoid progression, tissue destruction and optimize response to biologic therapies

Bottom line: <10 years from onset



Patient & Provider support resources

HS Foundation <http://www.hs-foundation.org>

- HS specialist directory
- Prior auth templates
- treatment guidelines
- patient education resources

Hsconnect.org

- provider procedure videos
- links to clinical trials

Hope for HS <http://hopeforhs.org>

- online patient support forums



HS Patients Need Your Help

- Identify, Treat, Refer, Support!
- Counsel smoking cessation
- Screen and manage comorbid conditions
- Find HS specialists in your area: [HSFoundation.org](https://www.hsFoundation.org)



Thank you

Acknowledgements

My patients at CCHS

DermnetNZ.org

Dr Stephen Daveluy, Wayne State University

Dr William Liss, CCHS

The HS Foundation



Wendy W. Peterson MSN FNP
DCNP

Contra Costa Health Services
wpeters2@cchealth.org

Spotlight on HS: Sources and Citations

1. Alikan, A. et al. (2019). North American clinical management guidelines for hidradenitis suppurativa: A publication from the United States and Canadian Hidradenitis Suppurativa Foundations. Part II: Topical, intralesional and systemic medical management. *Journal of American Academy of Dermatology*. 2019 March

2. Alikan, A. et al. (2019). 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. *Journal of American Academy of Dermatology*. 2019 July; 81(1): 76-90

Bhukan, A and Lio, P. "Hidradenitis Suppurativa: Seeking more pieces to the puzzle." *Practical Dermatology*. February 2022 Vol 19 No. 2: 54-56

3. Montero-Vilchez T, Diaz-Calvillo P, Rodriguez-Pozo J-A, Cuenca-Barrales C, Martinez-Lopez A, Arias-Santiago S, Molina-Leyva A. The Burden of Hidradenitis Suppurativa Signs and Symptoms in Quality of Life: Systematic Review and Meta-Analysis. *International Journal of Environmental Research and Public Health*. 2021; 18(13):6709. <https://doi.org/10.3390/ijerph18136709>

Spotlight on HS: Sources and Citations

4. Theut Riis P, Thorlacius L, Knudsen List E, Jemec GBE. A pilot study of unemployment in patients with hidradenitis suppurativa in Denmark. *Br J Dermatol*. 2017 Apr;176(4):1083-1085. doi: 10.1111/bjd.14922. Epub 2017 Feb 9. PMID: 27480611.5.
5. Margesson LJ, Danby FW. Hidradenitis suppurativa. *Best Pract Res Clin Obstet Gynaecol*. 2014 Oct;28(7):1013-27. doi: 10.1016/j.bpobgyn.2014.07.012. Epub 2014 Aug 1. PMID: 25214437.
6. Esmann S, Jemec GB. Psychosocial impact of hidradenitis suppurativa: a qualitative study. *Acta Derm Venereol*. 2011 May;91(3):328-32. doi: 10.2340/00015555-1082. PMID: 21394419.
7. Matusiak Ł, Bieniek A, Szepietowski JC. Hidradenitis suppurativa markedly decreases quality of life and professional activity. *J Am Acad Dermatol*. 2010 Apr;62(4):706-8, 708.e1. doi: 10.1016/j.jaad.2009.09.021. PMID: 20227585.
8. Horváth B, Janse IC, Blok JL, Driessen RJ, Boer J, Mekkes JR, Prens EP, van der Zee HH. Hurley Staging Refined: A Proposal by the Dutch Hidradenitis Suppurativa Expert Group. *Acta Derm Venereol*. 2017 Mar 10;97(3):412-413. doi: 10.2340/00015555-2513. PMID: 27535129.
9. Marzano AV, Genovese G, Casazza G, Moltrasio C, Dapavo P, Micali G, Sirna R, Gisondi P, Patrizi A, Dini V, Bianchini D, Bianchi L, Fania L, Prignano F, Offidani A, Atzori L, Bettoli V, Cannavò SP, Venturini M, Bongiorno MR, Costanzo A, Fabbrocini G, Peris K. Evidence for a 'window of opportunity' in hidradenitis suppurativa treated with adalimumab: a retrospective, real-life multicentre cohort study. *Br J Dermatol*. 2021 Jan;184(1):133-140. doi: 10.1111/bjd.18983. Epub 2020 Apr 13. PMID: 32119111

Spotlight on HS: Sources and Citations

10. Horváth B, Janse IC, Blok JL, Driessen RJ, Boer J, Mekkes JR, Prens EP, van der Zee HH. Hurley Staging Refined: A Proposal by the Dutch Hidradenitis Suppurativa Expert Group. *Acta Derm Venereol*. 2017 Mar 10;97(3):412-413. doi: 10.2340/00015555-2513. PMID: 27535129.
11. Garg A, Strunk A, Midura M, Papagermanos V, Pomerantz H. Prevalence of hidradenitis suppurativa among patients with Down syndrome: a population-based cross-sectional analysis. *Br J Dermatol*. 2018 Mar;178(3):697-703. doi: 10.1111/bjd.15770. Epub 2018 Jan 17. PMID: 28662304.
12. Join-Lambert O, Coignard H, Jais JP, Guet-Revillet H, Poirée S, Fraitag S, Jullien V, Ribadeau-Dumas F, Thèze J, Le Guern AS, Behillil S, Leflèche A, Berche P, Consigny PH, Lortholary O, Nassif X, Nassif A. Efficacy of rifampin-moxifloxacin-metronidazole combination therapy in hidradenitis suppurativa. *Dermatology*. 2011 Feb;222(1):49-58. doi: 10.1159/000321716. Epub 2010 Nov 25. PMID: 21109728.
13. Mathur, R & Azziz, R. "Use of Ethinylestradiol/Drospirenone Combination in Patients with the Polycystic Ovary Syndrome *Therapeutics and clinical risk Management 2008:4(2) p487-492 retrieved from Researchgate.com on March 9, 2024
14. Fernandez, J., Lenczowski, J., Hsiao, J., & Shi, V. (2021). Nutrition Education Toolbox for Hidradenitis Suppurativa . *SKIN The Journal of Cutaneous Medicine*, 5(3), 240–249. <https://doi.org/10.25251/skin.5.3.5>

Spotlight on HS: Sources and Citations

15. Garg A, Malviya N, Strunk A, Wright S, Alavi A, Alhusayen R, Alikhan A, Daveluy SD, Delorme I, Goldfarb N, Gulliver W, Hamzavi I, Jaleel T, Kimball AB, Kirby JS, Kirchhof MG, Lester J, Lev-Tov H, Lowes MA, Micheletti R, Orenstein LA, Piguet V, Sayed C, Tan J, Naik HB. Comorbidity screening in hidradenitis suppurativa: Evidence-based recommendations from the US and Canadian Hidradenitis Suppurativa Foundations. *J Am Acad Dermatol*. 2022 May; 86(5):1092-1101. doi: 10.1016/j.jaad.2021.01.059. Epub 2021 Jan 23. PMID: 33493574; PMCID: PMC8298595.

16. Saunte DML, Jemec GBE. Hidradenitis Suppurativa: Advances in Diagnosis and Treatment. *JAMA*. 2017 Nov 28;318(20):2019-2032. doi: 10.1001/jama.2017.16691. PMID: 29183082.

17. Aarts P, van Huijstee JC, van der Zee HH, van Doorn MBA, van Straalen KR, Prens EP. Adalimumab in conjunction with surgery compared with adalimumab monotherapy for hidradenitis suppurativa: A Randomized Controlled Trial in a real-world setting. *J Am Acad Dermatol*. 2023 Oct;89(4):677-684. doi: 10.1016/j.jaad.2023.04.034. Epub 2023 Apr 27. PMID: 37116615.

Spotlight on HS: Sources and Citations

18. Kimball AB, Jemec GBE, Alavi A, Reguiat Z, Gottlieb AB, Bechara FG, Paul C, Giamarellos Bourboulis EJ, Villani AP, Schwinn A, Ruëff F, Pillay Ramaya L, Reich A, Lobo I, Sinclair R, Passeron T, Martorell A, Mendes-Bastos P, Kokolakis G, Becherel PA, Wozniak MB, Martinez AL, Wei X, Uhlmann L, Passera A, Keefe D, Martin R, Field C, Chen L, Vandemeulebroecke M, Ravichandran S, Muscianisi E. Secukinumab in moderate-to-severe hidradenitis suppurativa (SUNSHINE and SUNRISE): week 16 and week 52 results of two identical, multicentre, randomised, placebo-controlled, double-blind phase 3 trials. *Lancet*. 2023 Mar 4;401(10378):747-761. doi: 10.1016/S0140-6736(23)00022-3. Epub 2023 Feb 3. Erratum in: *Lancet*. 2024 Feb 17;403(10427):618. PMID: 36746171.

19. Sabat R, Jemec GBE, Matusiak Ł, Kimball AB, Prens E, Wolk K. Hidradenitis suppurativa. *Nat Rev Dis Primers*. 2020 Mar 12;6(1):18. doi: 10.1038/s41572-020-0149-1. PMID: 32165620.

20. Vossen ARJV, van der Zee HH, Prens EP. Hidradenitis Suppurativa: A Systematic Review Integrating Inflammatory Pathways Into a Cohesive Pathogenic Model. *Front Immunol*. 2018 Dec 14;9:2965. doi: 10.3389/fimmu.2018.02965. PMID: 30619323; PMCID: PMC6302105.



46TH ANNUAL EDUCATIONAL CONFERENCE



COLLABORATE. EDUCATE. ADVOCATE.