Hidradenitis Suppurativa (HS)
Acne Inversa

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Conflicts of interest

Advisory Board, Merck Co., Inc.
OBJECTIVES

1. Identify the clinical features of hidradenitis suppurativa (HS)

2. To develop an effective therapeutic approach for HS, including surgery

Prevalence 1-4%

Women 3.3:1
**Definition**

Chronic, inflammatory, recurrent, debilitating, follicular skin disease that usually presents after puberty with painful, deep-seated, inflamed lesions in the apocrine gland-bearing skin of the body, most commonly the axillary, inguinal and anogenital regions.

*Second International Conference on Hidradenitis Suppurativa, March 5, 2009 San Francisco CA USA*

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**Hidradenitis Suppurativa**

*Misdiagnosed as “boils”*

Mild cases - an inflammatory, folliculopustular disease

Severe cases - hypertrophic scarring, nodules, sinus formation

Profound impact on quality of life
Pathogenesis

- Genetic predisposition; autosomal dominant
- Weak walled follicles, poor support
- Hormonal stimulation of ductal wall lining cells
- Blockage with subsequent follicular rupture
- Heat, sweat, irritation, squeezing may initiate
- Innate immune reaction to follicle contents

Multifactorial

Role of Androgens and Diet

- Ovarian, adrenal androgens
- Dietary androgens
  - Dairy is a triple threat
  - raises the level of insulin (whey)
  - raises the level of IGF-1 (casein)
  - provides androgens and 5a-reduced precursors of DHT in milk
  - High glycemic load food
  - raises the level of insulin
- Exogenous androgens - OCPs, implants, IUD, MPA injections

Controversial
Diagnostic Criteria for HS

1. **Typical lesions:**
   - Primary lesions - painful deep-seated nodules (blind boils)
   - Secondary lesions - abscesses, draining sinuses, bridged scars, “tombstone comedones”

2. **Typical localization:**
   - Axillae and groin, genitals
   - Under breasts, on buttocks and perineum

3. **Chronicity and recurrences -**
   - Chronic recurrent lesions for more than six months

   **All three criteria needed for diagnosis**

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**HS - Diagnosis**

- HS is often not recognized and diagnosis may be delayed for years

- Result of missed / ignored Dx is devastating poor quality of life with pain, impaired function, wasted time and money, frustration and depression
**Factors that Worsen HS**

- Drugs - lithium, androgenic meds, progestins e.g. Mirena IUD, Depot medroxyprogesterone acetate
- Smoking
- Stress
- Friction - any rubbing, squeezing, pinching
- Obesity

**HS Clinical features**

Chronic lesions

“tombstone comedones” - open twin or multi-headed comedones, left behind after sebaceous units destroyed

- chronic draining, malodorous sinuses
- dense fibrous scars
- pitted and pocked acne-like scars
Hurley’s Criteria for HS Staging

- **Stage I**: abscess formation, single or multiple, without sinus tracts and cicatrization/scarring. 70%

- **Stage II**: recurrent abscesses with sinus tracts and scarring, single or multiple, widely separated lesions. 26%

- **Stage III**: diffuse or almost diffuse involvement, or multiple interconnected tracts and abscesses across the entire area. 4%
Stage II HS Lesions

Chronic, recurrent lesions at same site, coalescing with fibrosis and sinus formation. Lesions persist for months with pain and drainage with foul odor.
Stage III HS Lesions

Hypertrophic fibrous scarring with “bridged scars” forming rope-like bands with active, painful, inflammatory nodules and sinus tracts forming thick scarred plaques over an area

Resulting in lymphedema and/or decreased mobility
HS Stage III

HS Treatment Principles

Choose treatment to fit disease severity

A permanent cure is only with wide surgical excision
(this concept needs to be reviewed)

Combine medical and surgical Rx
**Treatment HS**

*All Four Wheels on the Therapeutic Wagon*

1. Hormonal Management Including Diet
2. Inflammation control
3. IPGM and sinus elimination
4. Comedone control

This is NOT ‘step therapy’

These measures are concurrent and parallel and likely lifelong.

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**General HS Treatment for ALL Cases**

- Education - long time horizon, realistic goals
- Zero dairy, low carb diet and support
- Stop smoking
- Reduce stimuli to rupture of pores:
  - Reduce friction heat, sweating, obesity
  - Loose clothing, boxer-type underwear
  - Tampon use if appropriate / avoid pads
  - No picking, squeezing
- Anti-inflammatories – antibiotics, corticosteroids, biologics
- Anti-androgen Rx if possible
- Metformin - for metabolic syndrome and obese
Zinc and Vitamin C Supplement

- Used as anti-inflammatories and for wound healing
- Dose - Use zinc 50 mg / 2 mg copper amino acid complex and vitamin C 500 mg bid
- Side effects - GI upset, nausea, diarrhea

Note: this avoids hypocupremia (blocks copper) that can cause sideroblastic anemia, leukopenia, neutropenia

Inflammation Control in HS

Antibiotics
- As anti-inflammatory agents (almost all)
- As antibiotics when there is infection

Anti-inflammatories
- Classic corticosteroids – systemic, IM and IL
- Biologics – TNFα blockers and others

Other
- Stop smoking
- Stop friction, trauma to areas
Biologic Rx for HS

Outcome - control not cure

- HS cases treated with biologics:
  - infliximab, adalimumab, ustikinamab
- Most information on infliximab
- For severe/extensive HS for control, eg. before surgery
- Can be life-altering
- Variable long-term results and significant adverse effects

Surgery - Clear IPGM and Sinuses

Mini-unroofing
  - Punch biopsy 4 - 8 mm size, debride, seal with ferric chloride & petrolatum

Unroofing / Deroofing
  - Scissors, gauze, curette, CO₂ laser, scalpel, ferric chloride, electrodesiccation

Surgical excision
  - Classic with primary closure, flaps, grafts
  - Extensive with wide excision, fenestrated split thickness grafts, VAC Dressings or secondary intent healing
HS Surgery

- Stage III HS - **This is a surgical condition**
  - Use a knowledgeable surgeon
  - Staged procedures work well
  - Closure: flaps, grafts, or by secondary intention
- “Recurrences” are mostly due to new lesions
- Patient satisfaction rates are very high

Mini-unroofing or Punch debridement
Un-roofing without preparation with biologic
Hurley Stage III
Split Thickness Skin Grafts
Split Thickness Skin Graft for Hidradenitis Suppurativa (website)

4 Months Post Op Grafts
Summary
Thorough exam and staging
Education, chronicity, expectations, support
No smoking, hygiene/pressure relief, diet, metformin
Hormones - anti-androgens as indicated
Anti-inflammatories - topical and systemic antibiotics, cortisone, depending on severity
Early unroofing
Further surgery as indicated
Consider biologics for severe HS
- for control before surgery

Resources
[Logo of Hidradenitis Suppurativa Foundation, Inc.]
hs-foundation.org
Disclosures
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Merck & Co - Advisory Board