Hidradenitis Suppurativa
Update 2019

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The content of this lecture is extremely dry and may cause xerosis.
The use of Vaseline is highly recommended.
Disclosure

• No financial disclosures
Overview

• What is HS?
• Epidemiology
• Pathogenesis
• Genetic Factors
• Clinical Staging
• Associated Diseases
• Histopathology
• Diagnostic Criteria
• Differential Diagnoses
• Complications
• Treatments
• Updates
Introduction

• Definition of disease
  • Acne Inversa
  • A chronic inflammatory skin condition caused by follicular occlusion in the folliculopilosebaceous units of the skin.
  • MC in the intertriginous areas such as the axillae, groin, perianal, perineal and inframammary regions.
Epidemiology

• Less than 1-4%
• Higher prevalence in US population database study
  • 11.4 per 100,000
• Onset
  • Puberty – 40YO
  • MC 20-30 YO
  • F>M- French and US studies
  • Higher in African Americans (US)
Pathogenesis

• ?

• New Evidence show follicle-centered pathology instead of defect in apocrine glands

• Follicular occlusion → follicular rupture → associated immune response → HS clinical presentation
Genetic Factors

- 40% of HS patients have an affected first degree family member
- PSEN1, PSENEN, and NCSTN
  - Gamma secretase mutations
- TNF gene polymorphisms
- Further studies needed to elucidate associated pathways
Other Factors

- Mechanical stress
- Obesity
  - Hormonal role (androgen excess)
- Smoking
  - Promotes inflammatory mediators
    - TNF-alpha
    - Promotes follicular occlusion
    - Neutrophil chemotaxis
    - Th17 cells
- Hormones
  - On set- post puberty
  - Obesity
  - Antiandrogentic agents for treatments with evidence of efficacy
  - Peri-menstrual flares
  - Androgen meds- flare ups
- Bacteria
  - Controversial
  - More as a complication
Clinical Staging

• Hurley clinical staging – MC used
  • Stage I- Single or multiple abscess formation without sinus tracts and cicatrization/scarring
  • Stage II- Single or multiple recurrent abscesses with sinus tracts and scarring
  • Stage III- Diffuse distribution of lesions or multiple interconnected sinus tracts and abscesses across the entire area
Stage III: Diffuse distribution of lesions or multiple interconnected sinus tracts and abscesses across the entire area.

What stage is this?
Associated Diseases

• Metabolic syndrome
  • Increased co-occurrence
  • DM
  • Obesity
  • Dyslipidemia
  • Hyperglycemia
  • Hypertension
  • Insulin resistance

• These risks factors contribute to higher cardiovascular-associated death → Danish study, HS pts 2 fold greater CV death
Associated Diseases

• Inflammatory Bowel Disease
  • *Crohn disease* and ulcerative colitis
  • Multiple studies support this association
  • Gene association in both diseases: SULT1B1 and SULT1E1
  • Immune dysregulation and altered microbiota
 Associated Diseases

• Acne Vulgaris
  • More severe and difficult to treat

• Follicular occlusion tetrad
  • HS, Acne conglobata, dissecting cellulitis of the scalp and pilonidal sinus

• PAPASH syndrome: PSTPIP1 gene
  • Pyogenic arthritis
  • Pyoderma gangrenosum
  • Acne
  • Suppurative hidradenitis

• PASH syndrome
  • Pyoderma gangrenosum
  • Acne
  • Suppurative hidradenitis
Histopathology

• Early features
  • Follicular hyperkeratosis, follicular plugging, follicular dilation and lymphocytic perifolliculitis

• Established lesions
  • Additional features include psoriasiform hyperplasia of the interfollicular epithelium or a dense, mixed inflammatory infiltrate involving the lower half of the dermis and subcutis

• Chronic lesion
  • Sinus tracts lined by stratified squamous epithelium
  • Granulation tissue with or without foreign body giant cells
  • Destruction of folliculopilosebaceous units
  • Fibrosis
  • Incidental peri-apocrine and peri-eccrine inflammation
Dermatopathology

Heavy mixed inflammatory cells in the reticular dermis Extending into the subcutis. Abscesses are commonly present and may connect to The skin surface via a sinus tract. Granulation tissue and occasional giant cells are sometimes Present. In chronic cases, fibrosis and destruction of pilosebaceous Follicles and sweat glands are evident.
Diagnosis

• Patient history & Clinical manifestations:
  • Recurrent inflammatory nodules, sinus tracts and hypertrophic scarring in the intertriginous areas

• Lab:
  • Biopsy not required
  • Bacterial cultures not indicated unless clinical picture suggests infection
  • Imaging not necessary
    • US may be useful for preoperative assessment
Differential diagnosis

- Follicular pyodermas
- Acne vulgaris
- Intergluteal pilonidal diseases
- Crohn disease
- Granuloma inguinale
Complications

• Strictures and contractures
• Lymphatic obstruction, lymphedema of limbs and genitalia
• Malaise, depression, and suicide
• Anemia, hypoproteinemia and amyloidosis
  • Secondary to long term disease
• Infectious complications
  • Lumbosacral epidural abscesses
  • Sacral bacterial osteomyelitis
• Arthritis
• Squamous cell carcinoma
Treatments

• Patient’s management
  • Avoid skin trauma or friction
    • Loose clothing
  • Smoking cessation
  • Weight management
  • Antiseptic washes
    • Chlorhexidine 4%
Treatments

• Oral antibiotics
  • Clindamycin and rifampin combo therapy
    • For pts refractory to tetracycline tx
    • Clindamycin 300mg BID, Rifampin 600mg QD for 10 weeks
  • Tetracycline
    • 100mg QD or BID for several months
  • Dapsone 25-100mg per day

• Intralesional corticosteroids
• Punch debridement
  • I&D not performed due to recurrence nature of the disease

• Topical resorcinol
  • Chemical peel: keratolytic and antiinflammatory
Treatments

• Oral retinoids
  • Acitretin 0.56mg/kg per day
  • Isotretinoin 44 mg/day
  • Alitretinoin (Canada)

• Hormonal therapy
  • Oral contraceptive pills
  • Spironolactone
  • Finasteride

• Surgery
  • Treatment of nodules and sinus tracts

• Others:
  • TNF-alpha inhibitors- adalimumab, infliximab
What is new??

• North American Clinical Management Guidelines for HS (July 2019)
  • Data up to December, 1st 2018
  • Recommendation for evaluation, comorbidity screening and procedural treatment options based on strength
  • Overview of evidence-based recommendations for management and treatment based on strength
    • Topical and intralesional therapies
    • Systemic antibiotics
    • Hormonal therapies
    • Retinoids
    • Systemic immunosuppressants
    • Biologics
    • Pediatric and pregnant patients
North American Clinical Management Guidelines for HS (July 2019)

• Topical and Intraleisonal Therapies
  • Most are used empirically
  • Clindamycin has been shown to reduce pustules but increase Staph a. resistance
  • ILK 10mg/dl shown to reduce inflamed lesions significantly
North American Clinical Management Guidelines for HS (July 2019)

• Systemic Antibiotics
  • Some evidence for combo antibiotics
    • Rifampin and clindamycin
    • Rifampin, moxifloxacin, and metronidazole
North American Clinical Management Guidelines for HS (July 2019)

• Hormonal Therapies
  • Androgen influence in HS has been established
  • Effective therapies in small studies
    • Ethinyl estradiol/noregestrol
    • Ethinyl estradiol
    • Cyproterone
    • Spironolactone 100-150mg QD
    • Metformin 500mg 2-3 times daily
    • Finasteride
North American Clinical Management Guidelines for HS (July 2019)

- Retinoinds
  - Isotretinoin
    - Better response rate in milder disease
  - Acitretin
  - Alitretinoin- not available in the US (Used in Canada)
- All lack convincing data
North American Clinical Management Guidelines for HS (July 2019)

• Systemic immunosuppressants → data does not support efficacy
  • Methotrexate
  • Azathioprine
  • Cyclosporine
  • Colchicine
  • Systemic steroids
    • Rapid response but large side effect profile
North American Clinical Management Guidelines for HS (July 2019)

• Biologics- TNF Inhibitors
  • Adalimumab
    • FDA approved for treatment of HS
    • PIONEER 1 and 2 studies showed significant clinical clearance compared to placebo at 12 weeks
    • 160mg at week 0
    • 80mg at week 2
    • 40mg at week 4, then weekly
  • Infliximab
    • Some evidence
    • Dosing suggestion 5mg/kg and 10mg/kg every 4 to 8 weeks
  • Etanercept
    • Data is conflicting
  • Golimumab
    • Limited studies
North American Clinical Management Guidelines for HS (July 2019)

- Biologics
  - IL-1 Inhibitors
    - Anakinra – mixed results in studies
      - Can be considered only after failing TNF inhibitor
  - IL-12/IL-23 Inhibitors
    - Ustekinumab
      - Data lacking to support efficacy
North American Clinical Management Guidelines for HS (July 2019)

• Pediatrics and Pregnant Patients

• Pediatrics
  • Endocrinologic evaluation
  • May be more severe than adult form

• Pregnancy
  • First line
    • Topical treatments, procedural treatments and lifestyle modification
    • Systemic agents → second line
    • Retinoids and hormones → Contraindicated
<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Strength of recommendation</th>
<th>Level of evidence</th>
<th>References</th>
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<tr>
<td>Topical/IL therapies</td>
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<td>Chlorhexidine</td>
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<td>Triamcinolone (IL)</td>
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<td>Benzoyl peroxide</td>
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<td>Dapsone</td>
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<td>Systemic antibiotics</td>
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<td>Tetracyclines</td>
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<td>Rifampin + clindamycin</td>
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<td>Rifampin + moxifloxacin + metronidazole</td>
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</tbody>
</table>

Strength of Recommendation Taxonomy recommendation level: I, good-quality patient-oriented evidence; II, limited-quality patient-oriented evidence; and III, other evidence, including consensus guidelines, opinion, case studies, and disease-oriented evidence. Evidence grading level: A, recommendation based on consistent and good-quality patient-oriented evidence; B, recommendation based on inconsistent or limited-quality patient-oriented evidence; and C, recommendation based on consensus, opinion, case studies, or disease-oriented evidence. HS, Hidradenitis suppurativa; IL, intralesional.

*May be considered as low-dose adjunctive treatment or pulse dosing for acute flares or to bridge to other treatment.
North American Clinical Management Guidelines for HS (July 2019)

See additional Tables for details of each treatment. Other potential treatments are discussed in the text. HS management should be individualized for each patient and affected area; medical and physical therapies may be combined for optimal treatment; if lack of response, select treatment for more advanced disease.
What’s New?

• Spironolactone
  • 25-200mg QD
  • Evidence shows that androgen may play a role in HS
  • Limited efficacy data for antiandrogenic therapies in females HS
    • Spironolactone
What’s New?

• Apremilast- phosphodiesterase 4 inhibitor (JAAD 1/19)
  • 30mg BID
  • First randomized trial in 20 patients for 16 weeks
  • End point >= 50% reduction in total abscess and inflammatory nodule count
  • Generally well tolerated. Common side effects:
    • Common cold
    • Headache
    • Diarrhea
    • Nausea
What’s New

• IL-1 Inhibitors
  • Anakinra
  • Bermekimab
    • Clinical trial for immunotherapy for colorectal cancer and atopic dermatitis

• IL-12/23 Inhibitors
  • Ustekinumab

• 1064nm Nd:YAG

• Ongoing randomized controlled trials
  • Secukinumab
  • Bimekizumab- IL17a antibody
  • Guselkumab
  • Adalimumab + surgical interventions
  • IFX-1- monoclonal anti-human complement factor C5a antibody
Key points

• New treatments include
  • North American Clinical Management Guidelines
  • First systematic review and meta-analysis supporting association between inflammatory bowel disease and HS (July 2019)
  • Ustekinumab
  • Anakinra
  • Apremilasts- limited but efficacious results
  • Others in clinical trials
Closing Remarks

• HS is a debilitating chronic dermatologic disease that is challenging for physicians and devastating for patients
• More research is needed to find better treatment options for patients
• Important to refer patient to psychiatric counseling and support as it has profound psychosocial consequences
References:


suppurativa&source=search_result&selectedTitle=2~64&usage_type=default&display_rank=2.


Thank you

• Annlin@ehs.org