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Factors Affecting Healing in the Treatment of Hidradenitis Suppurativa

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Introduction

- Chronic, inflammatory, recurrent, debilitating, skin follicular disease in the apocrine gland-bearing area of the body
- Chronic and debilitating inflammatory disease
- Estimated to be over 325,000 patients in the US
- Mean onset 22y/o +- 8 years



Background

- Average 5-14 year diagnostic delay from onset of symptoms
- Patients often receive sporadic care only during flare-ups.
- Medical treatment options include topical and oral antibiotics
 - Growing evidence for biologic agents for disease suppression
- Surgical treatment is often required however ideal timing is unclear
- Multidisciplinary clinic formed to optimize management
 - Plastic Surgery, Dermatology, Infectious Disease, Gynecology, Internal Medicine



Objective

- Review Multidisciplinary Clinic experience
- Evaluate for factors which affect complete healing at two years post-surgery in patients
 - Patient demographics and comorbidities
 - Disease severity and location
 - Surgical treatment modality
 - Multidisciplinary follow-up
 - Treatment with biologic agents

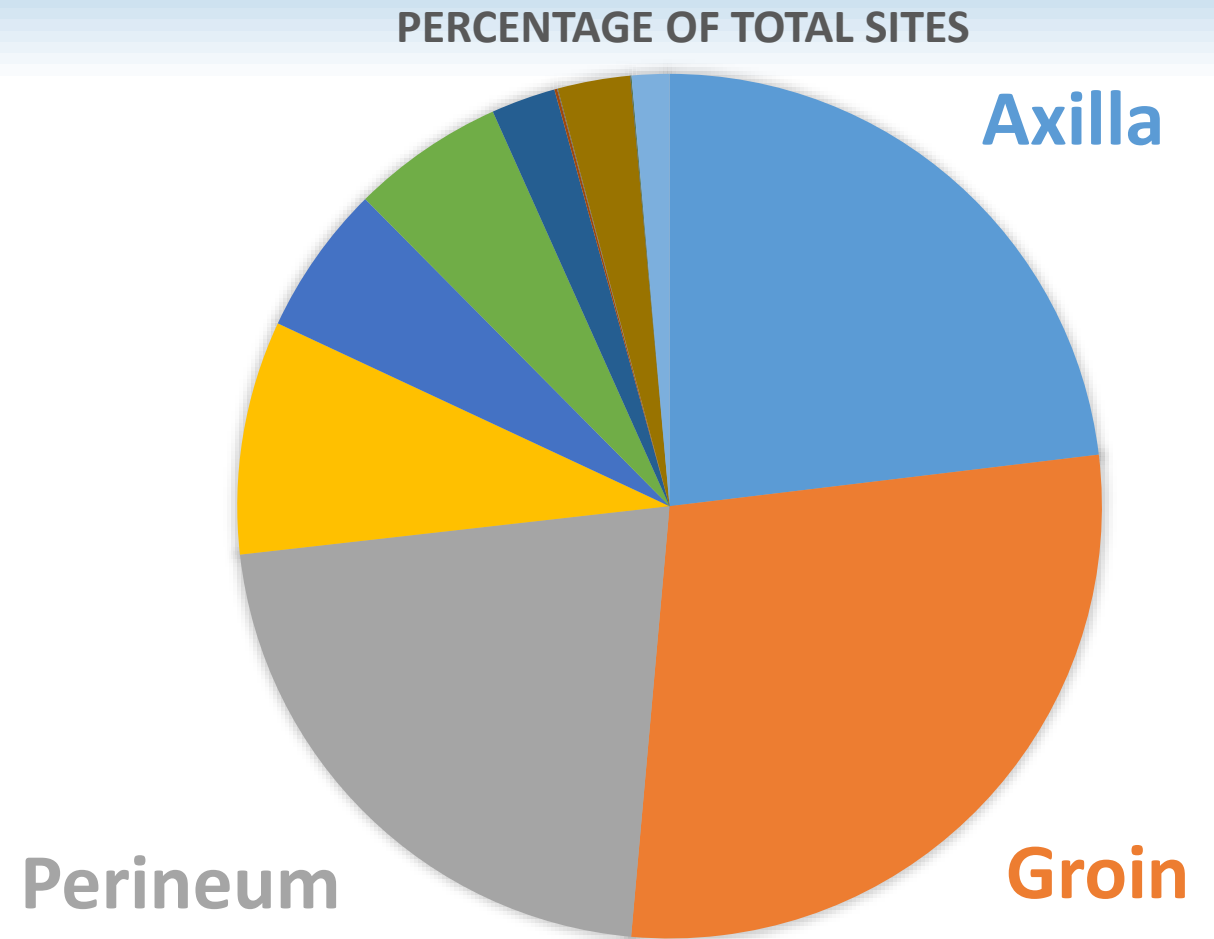
Patient Characteristics

- Three-year retrospective review of patient's referred through HSMC
- All patients underwent surgery
 - Incision and drainage with fulguration
 - Excision with or without reconstruction
- Minimum of 24 month follow-up

Patient Demographics	N (%)
Total Patients	248
Female gender	186 (75%)
African American	214 (88%)
Body mass index, kg/m ² , mean <u>+ SD</u>	26 <u>±</u> 10
Age of initial diagnosis, mean <u>+ SD</u>	29 <u>±</u> 9
Age at presentation, mean <u>+ SD</u>	45 <u>±</u> 17
Family history of hidradenitis suppurativa	139 (56%)
Diabetes	57 (23%)
Tobacco use	(45) 18%
Inflammatory bowel disease or Crohn's diagnosis	(35)14%
Connective tissue disease diagnosis	96 (39%)
Use of antibiotics*	181 (73%)

Distribution of Involvement

Site	n	% of patients
Axilla	124	50%
Groin	152	61.2%
Perineum	117	47%
Buttock	47	19%
Perianal	2	1%
Abdomen	30	12.2%
Breast	31	12.3%
Scrotum	13	5%
Neck	5	2%
Back	2	1%
Pilonidal	15	6%
Scalp	1	0.5%



Hurley Stage

Hurley Stage *	Number of involved sites	Percent of total sites	Percent of sites healed
1	131	17%	80%
2	442	56%	80%
3	210	27%	74%

Hurley stage I



Hurley stage II



Hurley stage III



Photographs courtesy of European Hidradenitis Suppurativa Foundation

Surgical Treatment and Healing

Repair	Healed (%)	Not Healed
Incision	224 (79%)	58
Excision	250 (78%)	72
Repair	90 (68%)	42
Total	564 (76%)	172



a. Incisional Treatment



b. Excisional Treatment with Secondary Healing



c. Primary Repair



d. Skin Graft



e. Flap Reconstruction

Variable	OR (95% CI)	p-value
Biologic treatment		
Use within 2 weeks of surgery	0.23 (0.08, 0.64)	0.005*
Held > 2 weeks before surgery	1.99 (0.79, 5.01)	0.146
Diabetes	1.02 (0.52, 2.01)	0.094
Body mass index	0.98 (0.94, 1.03)	0.445
Hemoglobin	1.05 (0.84, 1.32)	0.666
Female gender	1.09 (0.73, 2.04)	0.748
Family history of hidradenitis suppurativa	1.39 (0.48, 2.83)	0.812
Tobacco use	0.87 (0.44, 3.62)	0.849
Highest severity		0.281
Hurley Stage 2	.99 (0.19, 5.03)	0.987
Hurley Stage 3	0.61 (0.12, 2.98)	0.539
Number of involved sites		0.721
2	0.92 (0.29, 2.95)	0.884
3	1.48 (0.43, 5.10)	0.537

- HSMC Largest single predictor of healing
 - 78% vs. 45% (p=0.004)
- Not significant factors for healing
 - Gender
 - Age
 - Body mass index
 - Tobacco use
 - Diabetes
 - Pre-surgery hemoglobin
 - Family history of HS

Conclusions

- Multidisciplinary care is paramount for long term healing
- Hurley stage and number of involved sites did not affect 2 year healing rates
- Ablative procedures resulted in complete healing more often than primary reconstruction
- If using biologic agents, use within two weeks of surgery may negatively affect healing