

# Surgical Management of Hurley Stage III Hidradenitis Suppurativa Using ECM Graft

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## Learning Objective:

Understand surgical reconstruction of Stage III HS using an ECM Graft

(Please note: the following presentation contains graphic images of surgical procedures intended for medical education)

## Take Away Messages

1. Surgical reconstruction of Stage III HS may reduce recurrence rates but high rates of surgical complications (e.g. dehiscence or infection) are often high (>20%).
2. The case series sought to evaluate the use of a surgical graft comprising acellular extracellular matrix (ECM) during surgical reconstruction of Stage III HS.
3. Of the eight defects reconstructed using the ECM graft no major surgical complications occurred and no recurrences were noted, out to 3-12+ months.

# Plain Language Summary

## Why this study was needed:

Surgical reconstruction of Stage III HS typically requires wide excision of the diseased tissue followed by staged reconstruction or flap reconstruction. The relatively high rates of surgical complications (>20%) may be attributed to the poor quality of the tissue resulting from infection, inflammation and accumulation of scar tissue. An ECM graft was evaluated as a means to reduce the rates of surgical complications as part of the surgical management of Stage III HS.

## What did this study show:

- In the case series an ECM surgical graft was used to reconstruct 8 defects (n=6 patients), using the ECM graft either as dermal replacement, or as an implant under a fasciocutaneous advancement flap.
- All defects were fully healed, with only minor complications reported in two cases.
- At the long term-followup (3-12+ months), none of the participants had recurrences and no major surgical complications were reported.

## Why this is important:

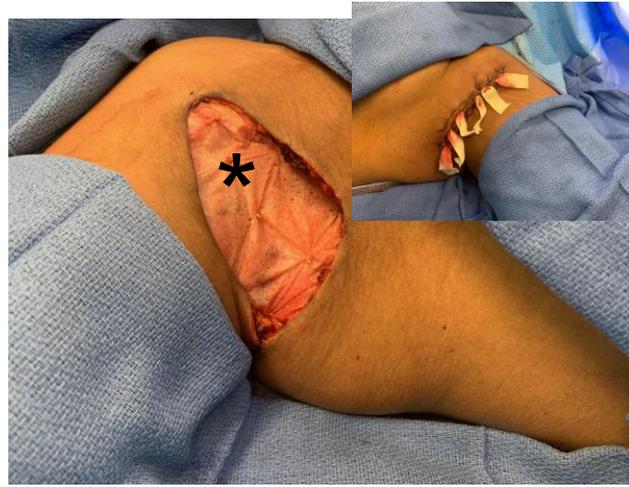
This study shows how an advanced ECM surgical graft may reduce complications associated with surgical reconstruction of Stage III HS lesions.

# Methods

- All participants in the case series had long-term (5-15 years) Stage III HS to the axilla (armpit) that was previously managed with dermatologic, pharmaceutical or wound care interventions.
- Participants underwent wide excision of the diseased tissue, down to the underlying subcutaneous fat.
- Four participants (n=5 defect) were reconstructed using a fasciocutaneous flap, while two participants (n=3 defects) were reconstructed using the ECM surgical graft as a dermal replacement, to 're-grow' the missing tissue.
- Surgical sites were managed with standard wound care, with dressings changed twice weekly, or as needed.



Example of wide excision and the excised tissue (insert)



Example of flap reconstruction to close the defect. The ECM graft is shown in the defect ("\*") and flap closure (insert)



Example of reconstruction using the ECM as a dermal replacement (\*) following wide excision

# Demographics and Results

Participant, Age	Comorbidities	HS Diagnosis	Location	Surgical Management	Time of last follow-up
Male, 29	Deep Vein Thrombosis (DVT)	2 years (Hurley Stage III)	Right axilla	<ul style="list-style-type: none"> <li>Wide excision</li> <li>ECM graft as a dermal substitute</li> <li>Closed via secondary intention</li> </ul>	Minor complications at 1 week – resolved week 2  11+ months No further complications No recurrence
Female, 31	Nil	5 years (Hurley Stage III)	Right axilla	<ul style="list-style-type: none"> <li>Wide excision</li> <li>ECM graft implant placement</li> <li>Fasciocutaneous flap reconstruction</li> </ul>	12+ months No complications No recurrence
Female, 26	HIV (well-controlled)	5 years (Hurley Stage III)	Right axilla	<ul style="list-style-type: none"> <li>Wide excision</li> <li>ECM graft implant placement</li> <li>Fasciocutaneous flap reconstruction</li> </ul>	Minor complications at week 3 – resolved week 6  10+ months No further complications No recurrence
Male, 39	Uncontrolled diabetes Smoker  HGB A1c 12.6	15 years, bilateral (Hurley Stage III)	Right and left	<ul style="list-style-type: none"> <li>Wide excision</li> <li>ECM graft as a dermal substitute</li> <li>Closed via STSG</li> </ul>	7+ months No complications No recurrence
Female, 37	Gout	10 years (Hurley Stage III)	Right axilla	<ul style="list-style-type: none"> <li>Wide excision</li> <li>ECM graft implant placement</li> <li>Fasciocutaneous flap reconstruction</li> </ul>	7+ months No complications No recurrence
Female, 30	Lupus, Rheumatoid arthritis	10 years, bilateral (Hurley Stage III)	Right and left axilla	<ul style="list-style-type: none"> <li>Wide excision</li> <li>ECM graft implant placement</li> <li>Fasciocutaneous flap reconstruction</li> </ul>	3+ months No complications No recurrence

# Example Case #1 – Flap Reconstruction



30-Year old female with bilateral Stage III axillary HS.

10 Year history



Wide excision to remove the diseased tissue, down to the subcutaneous fat layer.



Placement of the ECM surgical graft (\*) in the base of the defect.



Fasciocutaneous flap advancement and closure (sutures). Iodoform gauze placed between pledgeted sutures to allow drainage



Patient at 4 weeks fully healed.

Patient at 3+ month long-term follow-up has no surgical complications or recurrences.

# Example Case #2 – Dermal Replacement



1 29-Year old male with 2 year history of Stage III axillary HS.



2 Wide excision of the diseased tissue.



3 ECM graft (\*) placed into the base of the defect.



4 4 days  
New tissue begins to 'grow' into the graft to replace the missing tissue.



5 1.5 weeks  
New healthy tissue has grown in place.



6 6 weeks  
Wound is nearly closed and patient returns to work with full range of motion.

Patient at 11+ month long-term follow-up has no surgical complications or recurrences.

# Conclusions

1. This limited case series provides preliminary insights into the surgical management of grade III HS using an ECM graft to reduce surgical complications.
2. High rate of surgical complications associated with reconstruction of Stage III HS may be mitigated by use of advanced ECM technology to address underlying tissue inflammation and quickly build healthy well vascularized tissue.

# Contact Information

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# Disclosures

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