

## Case Report

# Surgical Considerations for Treatment and Management of Hidradenitis Suppurativa

Fiuza A<sup>1\*</sup>, Sproul W<sup>1</sup>, Hodge S<sup>1</sup>, Lespinasse P<sup>1</sup>, Lee E<sup>2</sup> and Howard D<sup>1</sup>

<sup>1</sup>Department of Obstetrics, Gynecology and Reproductive Health, University Hospital, USA

<sup>2</sup>Department of Surgery, University Hospital, USA

## Abstract

Hidradenitis Suppurativa (HS) is a chronic inflammatory skin condition that can become severe, requiring excision to prevent further infectious processes. Typically, HS is a slowly progressive condition that often gets misdiagnosed and under diagnosed. It can take up to 7 years for a proper diagnosis. Although HS is well-researched, there have been minimal reports of rapid progression to Stage III HS. This case aims to describe a unique case with rapid progression to Stage III within a 2-month span and required intervention and management from numerous surgical specialties to obtain a positive outcome.

**Keywords:** Hidradenitis suppurativa; Interprofessional collaboration; Management

## Introduction

Hidradenitis Suppurativa (HS) is a chronic inflammatory skin condition of the follicular epithelium that appears in the skin folds of the axillary, groin, perianal, perineal, and inframammary regions. It can be associated with recurrent inflamed nodules, abscesses, draining skin tunnels, and bands of severe scar formation. To further classify stage severity, the Hurley Staging System is used, where Stage I involves abscess formation without scars and tracts, Stage II involves recurrent abscesses with skin tunnels and scarring, single or multiple widely separated lesions, and Stage III is diffuse or almost diffuse involvement, or multiple interconnected skin tunnels and abscesses across. The condition is thought to arise from a combination of genetic, hormonal, and environmental factors. Further risks include smoking, obesity, and mechanical stress on the skin [1]. Secondary bacterial infection may occur and can progress to Fournier's gangrene. Standard treatment for uncomplicated disease includes topical antibiotics, but later stages may require oral antibiotics, anti-androgenic hormonal therapy, and/or oral retinoids. In Stage III, surgical excision with reconstruction is often required, and tumor necrosis factor-alpha inhibitors have also been approved for treatment [2]. Examples of surgical intervention at this stage include wide excision after acute phase stabilization, and punch debridement and unroofing (local or extensive). We present a case of rapid onset of stage III HS that occurred within a two-month span. This observation recognizes the importance of the need for an interprofessional approach to optimize the management for this condition, as it is a complex disease with numerous comorbidities. To provide an overview of current

management approaches, we discuss both the medical and surgical approaches for HS with a more common presentation.

## Case Presentation

Patient is a 40-year-old female, who experienced a mechanical fall leaving her bedbound for three months prior before seeking medical care, eventually becoming bedbound secondary to left hip pain. While bedbound, she mostly laid on her right side which led to multiple wounds on her right hip. Her presentation to the Emergency Department was for evaluation of malodorous wound and bilateral hip pain. Further work-up revealed an impacted fracture of the left femoral neck and left posterior acetabulum, stage IV pressure ulcer on her right hip and stage III Hidradenitis suppurativa located in and around the right inguinal region. Gynecological exam showed hypertrophy of the mons pubis and right labia majora, fistulous tracts at the bilateral inguinal folds and mons, and purulent fluid drainage. The areas of the left buttocks and posterior thigh were notable for thickened epithelium and presence of draining fistulous tracts.

CT scan (Figure 1) revealed a subacute fracture of the intertrochanteric left femur with regions of comminution, as well as a chronic left hip dislocation and appears to have remodeling and femoral head resorption along the site of impact. There was also evidence of left hip joint effusion containing debris. Septic arthritis was not excluded. Lastly, there was deep ulceration over the right greater trochanter with underlying osteomyelitis.



**Figure 1:** Cellulitis of the perineum, pelvic pannus, and right and left thigh with small abscesses and soft tissue gas. Soft tissue gangrene (Fournier's gangrene) is suspected.

**Citation:** Fiuza A, Sproul W, Hodge S, Lespinasse P, Lee E, Howard D. Surgical Considerations for Treatment and Management of Hidradenitis Suppurativa. Am J Surg Case Rep. 2024;5(1):1110.

**Copyright:** © 2024 Angelica Fiuza

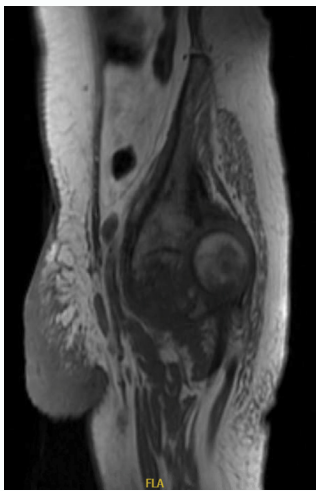
**Publisher Name:** Medtext Publications LLC

**Manuscript compiled:** Jan 11<sup>th</sup>, 2024

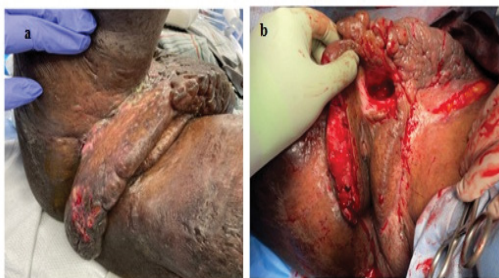
**\*Corresponding author:** Angelica Fiuza, Department of Obstetrics, Gynecology and Reproductive Health, New Jersey Medical School, Newark, NJ 07103, USA

MRI of the pelvis (Figure 2) revealed a left posterior wall acetabular fracture dislocation with ipsilateral basicervical/intertrochanteric proximal femur fracture. There was marked synovial thickening and enhancement with a small adjacent intramuscular abscess. Findings were highly concerning for septic arthritis. Osteomyelitis of the left proximal femur with associated pathologic fracture was considered as well. The right hip showed soft tissue ulceration with localized osteomyelitis of the underlying greater trochanter.

Six days after admission, incision and drainage of the sinus tract on the mons pubis and partial right vulvectomy were performed under anesthesia (Figure 3A and B). The right labial excision pathology showed the labial mucosa with extensive ulceration and severe acute and chronic inflammation. Two days later, the patient underwent a resection of the HS of the mons pubis and a partial right vulvectomy under anesthesia (Figure 4A and B).



**Figure 2:** Marked skin thickening and subcutaneous fat inflammatory change from the midline suprapubic soft tissues to the perineum, with multiple small rim-enhancing fluid collections and foci of subcutaneous air. Perineal inflammatory infiltration with multiple small abscesses and foci of air compatible with Fournier's gangrene.



**Figure 3:** Incision and drainage of the sinus tract on the mons pubis and partial right vulvectomy.

Five days after incision and drainage and partial vulvectomy, the patient underwent perineal and Mons pubis wound debridement and closure as well as debridement of the right hip wound, with application of Vacuum-Assisted Closure (VAC) device. Then the patient received a right Tensor Fascia Lata (TFL) rotation flap and a Split-Thickness Skin Graft (STSG) to the groin to close the wound by the plastic surgery team. Future treatment plan includes reconstruction of the left hip, which is to be done after infections are fully treated, as to not seed the placed hardware.



**Figure 4:** Resection of hidradenitis suppurativa of mons pubis and partial right vulvectomy.

## Discussion

The patient initially presented to the emergency department after a mechanical fall for bilateral hip pain and malodorous drainage from a right hip wound. Upon admission, the patient underwent rapid surgical intervention with wide excision and reconstruction of stage III HS in order to allow the orthopedic team to safely manage the impacted fracture of the left femoral neck and posterior acetabulum. The patient's HS was determined to be secondary to being bedbound after the fall, as she had no previous history of HS and the only risk factors for the condition being a Black female. Her bedbound status caused mechanical stress on the skin of the right inguinal region and developed rapidly to stage III HS due to not receiving appropriate care while bedbound. Thus, managing stage III HS was top priority, as urgent treatment was needed to prevent hematogenous infection spread.

Saunte and Jemec [3] reported that although the prevalence of HS is common (0.05%-4.10%), many patients are receiving inadequate care and treatment. Although this is predominantly a dermatological condition, primary care providers, OB/GYNs [1], and family medicine practitioners can play an influential role in screening and managing HS and the comorbidities associated with the disease. Current treatment for Stage I and less severe Stage II include topical treatments, oral antibiotics, hormonal treatment options, and retinoids [4]. These treatment strategies have been consistent over the past 10 years, but most recently adalimumab and other TNF $\alpha$  inhibitors have been shown to be effective for Stage II & III (moderate to severe) HS treatment, especially when used in combination with surgical interventions [5].

Mild to moderate cases of HS often warrant local and less invasive surgical interventions such as Incision and Drainage (I&D), carbon dioxide laser interventions, derroofing, or STEEP (Skin-Tissue Sparing Excision with Electrosurgical Peeling). Local surgical excision is also done for mild cases, where primary closure is utilized. For more severe cases, however, wide or radical excision is offered where closure modalities include secondary intention, split-thickness skin grafts, and skin flaps [4,6]. Currently, there is no consensus on closure technique per the North American Guidelines, which suggests the need to individualize care based on the patient [7]. Bechara et al. [5] found adalimumab to be efficacious in conjunction with wide-excision surgery followed by secondary intention healing and its use did not need to be interrupted prior to surgical intervention. This dual treatment has also been effective in significantly lowering recurrence rates for previously treated sites compared to surgery alone [3]. However, the utilization of this drug for severe cases of HS requires further investigation per the Bechara et al. [5] study.

## Conclusion

This is a report of a patient with Stage III HS secondary to a mechanical fall that resulted in bilateral hip injuries and immobility. The patient underwent successful surgical management of Stage III HS and is currently in treatment for her hip injuries with orthopedic collaboration. Treatment and management of HS must be interdisciplinary, as initial presentation is often in primary care settings and can have various comorbidities including infectious processes such as osteomyelitis and Fournier's gangrene. Awareness of HS is critical to catch earlier stages of disease which can be managed with medical interventions, rather than allowing for the development to progress to a chronic and more severe stage that requires invasive surgical intervention. In the cases such as this one where there is unprecedent rapid progression from a Stage I to Stage III HS, it is imperative to have an interdisciplinary approach to the management of the condition and its comorbidities to ensure the best possible outcome for the patient.

## References

1. Collier EK, Parvataneni RK, Lowes MA, Naik HB, Okun M, Shi VY, et al. Diagnosis and management of hidradenitis suppurativa in women. *Am J Obstet Gynecol.* 2021;224(1):54-61.
2. Ocker L, Nessr Abu Rached, Seifert C, Scheel C, Bechara FG. Current Medical and Surgical Treatment of Hidradenitis Suppurativa-A Comprehensive Review. *J Clin Med.* 2022;11(23):7240.
3. Saunte DML, Jemec GBE. Hidradenitis Suppurativa Advances in Diagnosis and Treatment. *JAMA.* 2017;318(20):2019-32.
4. Alharbi Z, Kauczok J, Pallua N. A review of wide surgical excision of hidradenitis suppurativa. *BMC Dermatol.* 2012;12:9.
5. Bechara FG, Podda M, Prens EP, Horváth B, Giamarellos-Bourboulis EJ, Alavi A, et al. Efficacy and Safety of Adalimumab in Conjunction With Surgery in Moderate to Severe Hidradenitis Suppurativa: The SHARPS Randomized Clinical Trial. *JAMA Surg.* 2021;156(11):1001-9.
6. Shukla R, Karagaiah P, Patil A, Farnbach K, Ortega-Loayza AG, Tzellos T, et al. Surgical Treatment in Hidradenitis Suppurativa. *J Clin Med.* 2022;11(9):2311.
7. Alikhan A, Sayed C, Alavi A, Alhusayen R, Brassard A, Burkhart C, et al. North American clinical management guidelines for hidradenitis suppurativa: A publication from the United States and Canadian Hidradenitis Suppurativa Foundations. *J Am Acad Dermatol.* 2019;81(1):91-101.