

# Hidradenitis Suppurativa

Hidradenitis suppurativa (HS) is a chronic, inflammatory skin disorder primarily affecting the apocrine glands, which are specialized sweat glands found in areas such as the armpits, groin, and under the breasts. The condition is characterized by recurrent, painful abscesses, nodules, and the formation of scar tissue. While the exact etiology remains unclear, HS is believed to involve a combination of genetic, hormonal, and environmental factors that lead to blockage and inflammation of the apocrine glands. The disease is often associated with other conditions, such as acne, Crohn's disease, and metabolic syndrome. HS can significantly affect a patient's quality of life, causing physical discomfort, scarring, and social stigma due to its appearance and odor.

## Pathophysiology

Hidradenitis suppurativa is thought to result from the obstruction of hair follicles and apocrine gland ducts, leading to the formation of painful nodules, abscesses, and sinus tracts. This blockage triggers a cascade of inflammatory processes involving immune cells, including neutrophils and macrophages, which contribute to the formation of pus-filled lesions. The exact molecular mechanisms behind the condition are not fully understood, but dysregulation of the immune response, specifically through tumor necrosis factor-alpha (TNF- $\alpha$ ), has been implicated. This dysregulation can lead to the formation of chronic inflammation and tissue damage over time.

## Epidemiology and Risk Factors

HS is more common in women and individuals of African descent. The disease often begins in adolescence and typically presents in areas rich in apocrine glands such as the axillae, groin, buttocks, and under the breasts. The condition is more frequently observed in individuals with a history of acne, suggesting a potential link between the two conditions. While the exact cause is unknown, factors such as obesity, smoking, and family history play significant roles in disease onset and progression. Stress has also been identified as a contributing factor, potentially exacerbating symptoms during flare-ups. However, it is important to note that poor hygiene is not a causative factor, and the condition is not directly related to obesity, although weight loss may help improve symptoms.

## Clinical Presentation

Hidradenitis suppurativa typically manifests as painful, swollen lumps or abscesses that may rupture and drain a yellowish fluid. These lesions often heal with scarring and can lead to the formation of sinus tracts or tunnels under the skin, which can become recurrent. Over time, affected areas may become thickened and fibrotic. The disease progresses through different stages, with early stages characterized by isolated abscesses and later stages leading to extensive scarring, sinus formation, and skin changes. Commonly affected areas include the armpits, groin, buttocks,

and under the breasts, and the condition can cause significant physical discomfort, as well as psychological distress due to its appearance and odor.

## Diagnosis

The diagnosis of hidradenitis suppurativa is primarily clinical, based on the characteristic appearance of the lesions and patient history. There are no specific laboratory tests for HS, but the condition can be differentiated from other skin diseases based on its typical location, recurrent nature, and associated symptoms. A thorough examination by a dermatologist is crucial for identifying the disease in its early stages and differentiating it from other conditions such as folliculitis or abscesses.

## Treatment Options

- **Medical Management:** Early management of HS involves both topical and systemic therapies aimed at reducing inflammation, preventing infection, and controlling flare-ups. First-line treatments include:
  - **Antibiotics:** Oral antibiotics, such as tetracycline, minocycline, or clindamycin, are commonly used to control bacterial infections and reduce inflammation. Topical antibiotics, such as clindamycin or erythromycin, can also help manage localized lesions.
  - **Anti-inflammatory Medications:** Nonsteroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen and naproxen, can help alleviate pain and inflammation during acute flare-ups. In more severe cases, intralesional corticosteroid injections may reduce swelling and pain.
  - **Hormonal Therapy:** In women, hormonal treatments, including oral contraceptives containing estrogen or anti-androgens like spironolactone, may help control disease activity, as hormonal fluctuations can exacerbate HS symptoms.
  - **Retinoids:** For moderate to severe cases, retinoids such as oral isotretinoin (Accutane) may be used, particularly when the disease resembles acne in its presentation. Retinoids help by reducing the formation of comedones and inflammation.
  - **Biologic Therapy:** Adalimumab (Humira), a tumor necrosis factor-alpha (TNF- $\alpha$ ) inhibitor, has been approved by the FDA for moderate to severe hidradenitis suppurativa. Clinical trials have shown that adalimumab significantly reduces the number of inflammatory nodules and abscesses, improving both the clinical and quality-of-life outcomes for patients. Other biologics, such as infliximab and ustekinumab, are being explored in clinical settings.
- **Surgical Management:** In patients with severe or refractory hidradenitis suppurativa, surgery may be required. Surgical interventions can include:
  - **Incision and Drainage:** Small abscesses and pustules may be drained to relieve pressure and reduce pain. This is a temporary solution and is usually followed by the administration of antibiotics.

- **Excision:** For extensive or recurrent disease, excision of the affected tissue may be necessary. In cases of chronic or large lesions, this may involve removing significant portions of skin, which may require skin grafts to close the wounds (Gottlieb & Cham, 2020).
- **Laser Therapy:** In some cases, laser therapy, such as carbon dioxide (CO<sub>2</sub>) laser, may be used to remove scar tissue or destroy the apocrine glands in the affected areas, reducing the likelihood of recurrence.
- **Prevention and Lifestyle Modifications:** While HS cannot be prevented, certain lifestyle modifications may help reduce the frequency and severity of flare-ups. These include:
  - **Weight Management:** Although obesity is not a direct cause of hidradenitis, maintaining a healthy weight can help reduce the burden of the condition and improve symptoms.
  - **Avoiding Smoking:** Smoking is a known risk factor for HS, and quitting may reduce flare-ups and improve overall disease management.
  - **Good Hygiene Practices:** Daily cleansing of affected areas with antibacterial soap may help prevent bacterial superinfection and reduce odor. Tight-fitting clothing should also be avoided to reduce friction on affected areas.

## Conclusion

Hidradenitis suppurativa is a chronic and debilitating condition that significantly impacts patients' quality of life. Although pathogenesis remains poorly understood, advances in medical and surgical treatments have improved disease management. Biologic therapies, such as adalimumab, offer promising results for patients with moderate to severe disease, while antibiotics, hormonal treatments, and retinoids remain essential for controlling mild to moderate cases. Surgical options are considered when medical treatments fail to provide sufficient relief. Early diagnosis and a comprehensive treatment approach are critical to managing this condition effectively.

## References

- ❖ Gottlieb, A. B., & Cham, D. (2020). *Hidradenitis suppurativa: Diagnosis and management*. *Journal of the American Academy of Dermatology*, 82(1), 11-20. <https://doi.org/10.1016/j.jaad.2019.06.043>
- ❖ Kim, H. H., Tzellos, T. G., & Papadopoulos, M. (2021). Efficacy of biologics in hidradenitis suppurativa: A systematic review and network meta-analysis. *Dermatologic Therapy*, 34(2), e14895. <https://doi.org/10.1111/dth.14895>
- ❖ Naik, H. B., Lee, D. M., & Galbraith, J. S. (2021). Hidradenitis suppurativa: Pathogenesis, diagnosis, and management. *Journal of the American Academy of Dermatology*, 85(3), 619-629. <https://doi.org/10.1016/j.jaad.2021.01.037>
- ❖ Yuan, Y., Huang, Y., & Zheng, H. (2019). Hidradenitis suppurativa and its association with systemic diseases. *Journal of Dermatological Treatment*, 30(5), 499-504. <https://doi.org/10.1080/09546634.2019.1584877>
- ❖ Zouboulis, C. C. (2020). Hidradenitis suppurativa: Epidemiology and pathogenesis. *Journal of the European Academy of Dermatology and Venereology*, 34(4), 702-710. <https://doi.org/10.1111/jdv.16576>