Case Report

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A Case Report of Hidradenitis Suppurativa in a 27-Year-Old Male Patient

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Abstract

Hidradenitis suppurativa (HS), also referred to as Verneuil's disease or acne inversa, derives its name from the Greek words hidros (sweat) and aden (glands).[1] It is a chronic, scarring condition believed to result from the blockage of hair follicles, primarily affecting intertriginous and anogenital areas. While the axilla and groin are the most commonly affected regions, HS can also occur in the mammary and submammary areas, perineum, and sacral region. There is no standardized treatment, and in severe cases, extensive surgical excision followed by complex reconstructive procedures is necessary. One of the primary challenges post-excision is managing the resulting skin defects. While secondary healing may be an option, large defects require skin grafts or flaps to minimize scarring and accelerate recovery. When multiple anatomical regions are affected, staged surgical interventions may be required. Histopathology is gold standard for final diagnosis. Here we report a case of 27-year-old male with multiple abscesses over right axillary region diagnosed as Hidradenitis suppurativa.

Key words: Hidradenitis suppurativa, hair follicles, surgical excision, histopathology.

INTRODUCTION

Hidradenitis suppurativa (HS), also referred to as Verneuil's disease or acne inversa, derives its name from the Greek words *hidros* (sweat) and *aden* (glands).[1] It is a chronic, scarring condition believed to result from the blockage of hair follicles, primarily affecting intertriginous and anogenital areas. While the axilla and groin are the most commonly affected regions, HS can also occur in the mammary and submammary areas, perineum, and sacral region. The disease's distribution closely aligns with apocrine gland locations, particularly those associated with breast tissue, also known as the "milk line." Although the exact cause remains uncertain, research suggests that HS is part of the follicular occlusion tetrad, which includes acne conglobata, dissecting cellulitis of the scalp, and pilonidal sinus.[2] The prevalence of HS is estimated to range from 0.03% to 4%, with onset typically occurring around puberty and before the age of 40, showing a higher

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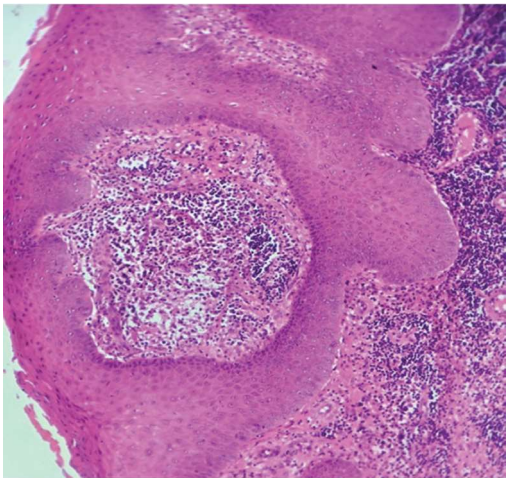
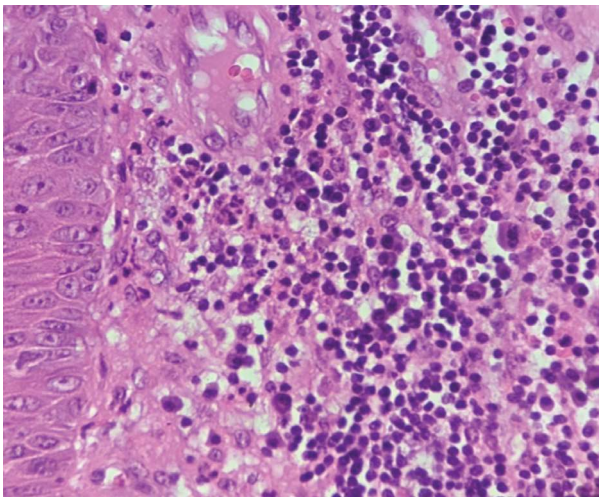
incidence in females. Potential risk factors include smoking, obesity, and inflammatory bowel disease.[3] Histopathological findings are often non-specific, making it challenging to differentiate HS from other inflammatory conditions. However, histopathology is gold standard for final diagnosis. Here we report a case of 27-year-old male with multiple abscesses over right axillary region diagnosed as Hidradenitis suppurativa.

CASE REPORT

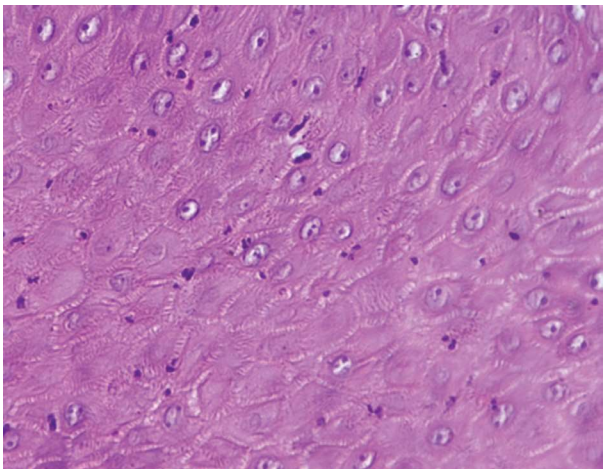
A 27-year-old male with multiple abscesses over right axillary region since one year associated with pus discharge and non–healing wound. On clinical examination, 5x3 cm indurated hard skin with underlying swelling and pus discharge was found in the right axilla. Excision biopsy was done under local anaesthesia. During excision 3 ml pus was drained 2 cm deep to the skin. The excised tissue was sent to the histopathology laboratory for further evaluation. We received multiple irregular fat covered grey brown tissue bits which altogether measured 4x 4x 2 cm. Few of the tissue bits were skin covered. The overlying skin appeared unremarkable grossly. Representative sections of the tissue were submitted for histopathological examination. On microscopic examination, there was presence of epidermis with acanthosis, hyperkeratosis, parakeratosis and focal interstitial neutrophilic infilterate. The dermis showed fibrosis and few cystic areas filled with, proteinaceous material having numerous foamy histiocytes, plasma cells, lymphocytes and neutrophils. There was also several aggregates of epitheloid histiocytes with foreign body type of giant cells forming non caseating granuloma. (Photograph 1, 2, 3) Overall histological findings were suggestive of Hidradenitis suppurativa.



Photograph 1: showed acanthosis and parakeratosis [Hematoxylin–eosin stain, 4X]



Photograph 2: showed mixed inflammatory infiltrate with a preponderance of plasma cells [Hematoxylin–eosin stain, 40X]



Photograph 3 showed intraepithelial neutrophils [Hematoxylin–eosin stain, 40X]

DISCUSSION

Hidradenitis suppurativa (HS), also known as Verneuil's disease, is a chronic inflammatory condition caused by the obstruction of apocrine gland ducts. It is a complex disorder that presents with recurrent, painful nodules, abscesses, and malodorous, draining sinus tracts, primarily affecting flexural areas of the skin.[1] HS exhibits characteristics of both autoinflammatory and autoimmune disorders, involving multiple inflammatory pathways and various immune cell types.[4] However, its exact pathogenesis remains only partially understood. HS is influenced by a combination of genetic, environmental, and behavioral factors, all of which contribute to its onset and severity. The condition often runs in families, suggesting a hereditary component.

It appears to follow an autosomal dominant inheritance pattern with incomplete penetrance, meaning not all genetically predisposed individuals develop the disease.[5] Mutations in immune-regulating genes, particularly NOD2, have been linked to HS. One of the most significant modifiable risk factors, smoking is strongly associated with both the development and severity of HS.[6] It is believed to contribute to the disease by promoting inflammation and impairing skin healing. A well-established risk factor, obesity has been linked to HS due to increased friction and sweating in affected areas, which exacerbates follicular occlusion and inflammation.[7,8] Additionally, obesity can lead to hormonal imbalances that may further trigger disease activity. Hormones play a crucial role in HS, as the disease often begins or worsens around puberty. Evidence suggests that androgens contribute to its pathogenesis, with hormonal fluctuations during puberty, pregnancy, menstruation, and menopause linked to disease exacerbations.[9] HS is frequently associated with conditions such as Crohn's disease, metabolic syndrome, polycystic ovarian syndrome (PCOS), and diabetes.[10] These disorders share common pathways involving chronic inflammation, metabolic dysfunction, and hormonal disturbances, which may predispose individuals to HS.

HS develops through a complex interaction of genetic, environmental, and immune factors. The disease is primarily characterized by follicular occlusion, leading to inflammation, infection, and abscess formation. The process begins with hair follicle blockage, which disrupts normal apocrine gland drainage. This results in follicular dilation and the accumulation of keratin and sebum, creating a favorable environment for bacterial overgrowth.[7] When the blocked follicles rupture, their contents spill into surrounding tissues, triggering a local immune response. Neutrophils, macrophages, and lymphocytes are recruited, intensifying the inflammatory cascade. This leads to painful abscess formation filled with pus.[8] As the abscesses rupture, they may develop into interconnected sinus tracts and fistulas, resulting in ongoing skin damage and chronic suppuration (Patel et al., 2015). In long-standing cases, granulomatous inflammation—a hallmark of chronic immune activation—occurs, leading to extensive fibrosis and scarring.[10] Persistent inflammation leads to thickened, damaged skin. Fibrosis occurs when normal tissue is replaced with dense scar tissue, increasing the risk of contractures and deformities. The formation of interconnected abscesses further contributes to HS's disfiguring appearance.[11] Histopathological findings in HS include hyperkeratosis, obstruction of hair follicles and sweat glands, granulomatous inflammation, and fibrosis.

There is no standardized treatment for HS, and the wide range of therapeutic approaches found in the literature reflects the ongoing search for an optimal solution. However, management is typically tailored to the disease stage. While antibiotic therapy is commonly prescribed, it does not address the root cause of HS, as the disease is not primarily infectious in nature. Empirically administered antibiotics may provide some relief but are often ineffective as a long-term solution. Surgery is frequently required for HS, though there is no universally accepted approach. When patients present with abscessed nodules, incision and drainage are typically performed to evacuate pus and provide symptom relief.[12] However, more extensive surgical excision may be necessary for severe or recurrent cases.

CONCLUSION

Hidradenitis suppurativa is a debilitating condition that significantly impacts both physical and social well-being and is often diagnosed after a prolonged delay. There is no standardized treatment, and in severe cases, extensive surgical excision followed by complex reconstructive procedures is necessary. One of the primary challenges post-excision is managing the resulting skin defects. While secondary healing may be an option, large defects require skin grafts or flaps to minimize scarring and accelerate recovery. When multiple anatomical regions are affected, staged surgical interventions may be required.

There is no conflict of interest.

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