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Significant clinical response in severe hidradenitis suppurativa to oral rifampicin and methylprednisolone therapy: A case report

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Abstract
Hidradenitis suppurativa (HS) is a chronic, relapsing inflammatory disorder of the apocrine glands characterized by nodules, abscesses, fistulas, and scarring in intertriginous areas. The condition is also known as apocrinitis, axillary hidradenitis, apocrine gland abscess, and acne inversa. The prevalence of HS ranges from 0.4% to 4% worldwide. Women are affected more frequently than men. HS typically involves intertriginous regions such as the axillae, breasts, groin, and anogenital area, and it is often bilateral. In men, HS is more commonly found in the anogenital region. HS significantly reduces patients' self-confidence and quality of life. Appropriate management, including antibiotic or surgical therapy is essentials depending on the disease severity, comorbidity control, and patient education.
We report a case of a 50-year-old man with Hurley stage III hidradenitis suppurativa involving atypical sites for males, namely the axilla, back, and left knee. Although standard therapy for severe HS usually requires surgical intervention, the patient refused the procedure. As an alternative, a combination of systemic antibiotics and corticosteroids was administered, resulting in a marked clinical improvement. This case is reported to highlight the successful non-surgical treatment of severe HS with an atypical lesion distribution, a condition rarely documented in the literature.

Keywords: Hidradenitis suppurativa, Hurley stage III, atypical lesion, rifampicin, adjunctive corticosteroid therapy, non-surgical management

Introduction
Hidradenitis suppurativa (HS) is a chronic inflammatory disorder of the apocrine glands characterized by recurrent inflammatory nodules, abscesses, fistulas, and scarring, which commonly appear in intertriginous regions (axillae, breasts, groin, and anogenital areas) and are often bilateral. The condition is also referred to as apocrinitis, axillary hidradenitis, apocrine gland abscess, and acne inversa. In rare cases, HS may involve the scalp (cicatrizing perifolliculitis), face, chest, and back. HS almost always leads to a significant decline in patients' self-confidence and quality of life [1, 2].
Globally, the prevalence of HS ranges from 0.4% to 4%. HS is more commonly found in women than in men, with a ratio of 1:2.7 [3]. It most frequently occurs between post-puberty and perimenopause, a pattern thought to be related to the influence of androgens. In women, HS typically affects the axillary region, whereas in men it more commonly involves the anogenital area [2, 3].
The etiology of HS remains unclear. However, several predisposing factors have been identified, including obesity, smoking, psychological stress, and genetic susceptibility to acne [4]. A family history of HS is found in one-third of patients. In familial HS, mutations have been identified in the γ-secretase genes nicastrin, presenilin-1, and presenilin enhancer-2.3,5 HS has also been associated with polycystic ovarian syndrome (PCOS), psychiatric disorders (depression, anxiety), diabetes mellitus, hypertension, hyperlipidemia, obesity, and metabolic syndrome [5].

Case Report
A 50-year-old man presented with multiple reddish nodules in the left axilla, back, and left knee for the past year. The patient initially noticed a single nodule in the left axilla, approximately the size of a corn kernel, which gradually enlarged.

The lesion resolved temporarily but recurred. During flare-ups, the nodules increased in number, and new nodules appeared on the back and left knee, with varying sizes. The nodules were painful, exudative, and emitted a foul odor, interfering with the patient's daily activities. The patient also reported occasional fever. No factors were identified that aggravated or alleviated the symptoms.

The patient had a history of uncontrolled hypertension. He denied other illnesses, trauma, or allergies. He had previously sought medical care several times and received topical and oral medications, but the symptoms consistently recurred. The patient worked as a farm laborer and was an active smoker, consuming approximately one pack of cigarettes per day.

The patient had a normal body mass index (24.0 kg/m²). Vital signs and general physical examination were within normal limits. Dermatological examination of the left axillary region, anterior and posterior thorax, and left knee revealed multiple nodules and abscesses with erythematous bases, ranging from coin-sized lesions to plaques, some of which had coalesced to form sinus tracts with purulent discharge. Areas of scarring were also noted. A working diagnosis of hidradenitis suppurativa was established, with consideration of scrofuloderma and carbuncle as differential diagnoses.

Fig 1: (A) Hidradenitis suppurativa on the back: multiple erythematous nodules forming plaque-sized lesions, some of which have coalesced, with multiple areas of scarring and active sinus tracts discharging purulent material. (B) Skin appearance after two months post-treatment. Inflammation has subsided, leaving post-inflammatory hyperpigmentation and scarring. No new nodules or lesions are observed.

Fig 2: Hidradenitis suppurativa in the left axillary region: multiple erythematous nodules forming plaque-sized lesions, some of which have coalesced, accompanied by multiple areas of scarring and active sinus tracts discharging purulent material (A). After two months of treatment, inflammation has subsided, leaving post-inflammatory hyperpigmentation and scarring. No new nodules or lesions are observed.

Fig 3: Hidradenitis suppurativa in left knee region: multiple erythematous, painful nodules are seen accompanied by multiple areas of hyperpigmentation and scarring.

Gram staining, pus culture, antibiotic sensitivity testing, and histopathological examination were performed to exclude the differential diagnoses. Gram staining did not reveal organisms due to insufficient specimen. Pus culture and sensitivity testing demonstrated growth of Staphylococcus hominis ssp. hominis, which was resistant to penicillins, macrolides, fluoroquinolones, sulfonamides, and lincosamides (clindamycin). The isolate remained sensitive to doxycycline, tetracycline, vancomycin, and gentamicin. Histopathological findings included epidermal focal spongiosis and hypogranulosis. In the superficial dermis, loose edematous stroma was observed, with dilated lymphatic vessels and dense lymphohistiocytic and plasma cell infiltrates surrounding blood vessels. The findings were interpreted as chronic nonspecific inflammation, consistent with descriptions of hidradenitis suppurativa in the literature.

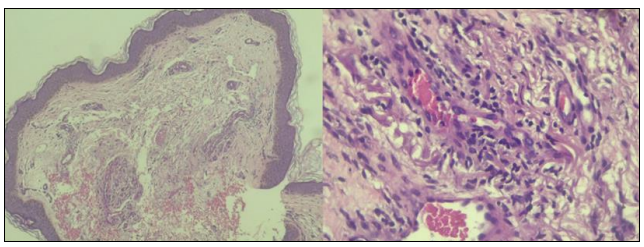

Fig 4: Histopathological findings of the patient. A cystic structure lined by squamous epithelium is observed, consistent with the appearance of sinus formation in hidradenitis suppurativa.

Because the patient refused surgical intervention, systemic antibiotic therapy with clindamycin 300 mg twice daily and rifampicin 300 mg twice daily was initiated for 4 weeks. After culture and sensitivity results were obtained, clindamycin was discontinued due to resistance. Adjunctive therapy with oral methylprednisolone 8 mg three times daily for 2 weeks followed by tapering was started. The patient was also given topical fusidic acid twice daily, mefenamic acid 500 mg twice daily as an analgesic, cetirizine 10 mg once daily as an antipruritic, and amlodipine 10 mg once daily for hypertension. The patient received counseling regarding treatment adherence, smoking cessation, stress management, and avoidance of tight or coarse clothing.

At a two-month follow-up visit after completing therapy, the patient reported complete symptom resolution. Dermatological examination showed closure of sinus tracts with no discharge and no new nodules or lesions. The affected areas exhibited post-inflammatory hyperpigmented macules and scarring. The patient expressed satisfaction with the treatment results.

Discussion

The diagnosis of hidradenitis suppurativa in this case was established based on clinical history, physical examination, and confirmation through histopathological evaluation. Chronicity and recurrent flare-ups are key features in diagnosing HS. Physical examination revealed characteristic skin lesions consisting of painful, confluent nodules and abscesses with active purulent drainage, accompanied by multiple sinus tracts and scars. The distribution of lesions corresponded to typical intertriginous sites; however, in this case, additional lesions were found in unusual areas, namely the back and knee, which are rarely reported, especially in male patients, who more commonly present with anogenital involvement [1].

According to the Hurley staging system, this patient met the criteria for Hurley stage III due to the presence of interconnected sinus tracts with purulent discharge, along with multiple nodules, abscesses, and scars. Based on the International Hidradenitis Suppurativa Severity Score System (IHS4), the patient was classified as moderate severity due to the presence of more than five nodules and abscesses.

The goals of therapy in HS are to control infection and inflammation, prevent new lesion formation, reduce pain and odor, and improve cosmetic outcomes, which are often linked to reduced self-esteem and quality of life. Guidelines recommend systemic antibiotics as the first-line therapy. For Hurley stage I, oral tetracyclines such as doxycycline 50-100 mg twice daily are preferred. For Hurley stage II and III, combination therapy with clindamycin 300 mg twice daily and rifampicin 300 mg twice daily is the main recommendation. Biologic agents such as adalimumab or infliximab may also be considered. Surgical procedures, including deroofing, sinus tract excision, or wide excision with or without skin grafting may be performed to remove sinus tracts. Other therapeutic options include dapsone 25-200 mg daily, acitretin 0.2-0.5 mg/kg/day, or prednisone 40-60 mg/day [6].

This patient refused surgical management; therefore, systemic clindamycin and rifampicin were initiated while awaiting culture results. Rifampicin is a broad-spectrum antibiotic with antimicrobial and immunomodulatory effects. Clindamycin is an antistaphylococcal and antistreptococcal antibiotic that inhibits bacterial protein synthesis and reduces neutrophil chemotaxis. The combination has demonstrated high efficacy, particularly in moderate-to-severe HS [7]. After culture results were

available, clindamycin was discontinued due to resistance. Tetracycline was not available at our healthcare facility and therefore could not be administered. Adjunctive therapy with methylprednisolone 8 mg three times daily, which is equivalent to approximately 30 mg of prednisone per day was initiated.

Therapeutic response was evaluated every 2-4 weeks. In this patient, significant clinical improvement was observed after 4 weeks of therapy, with marked reduction in pain and inflammation. At 8 weeks, symptoms had resolved completely, and the patient was satisfied with the outcome. Corticosteroids possess anti-inflammatory properties by inhibiting prostaglandin, leukotriene, and cytokine synthesis, thereby reducing leukocyte recruitment to inflamed tissues. Systemic corticosteroids produce variable responses in HS. High-dose systemic corticosteroids (0.5-0.7 mg/kg) are recommended during acute flares; however, relapse frequently occurs during tapering. Therefore, long-term high-dose corticosteroids are generally not beneficial for HS management. In contrast, low-dose systemic corticosteroids as adjunctive therapy have shown favorable long-term results [8]. Potential adverse effects include gastritis, headache, weight gain, Cushingoid features, hyperglycemia, dyslipidemia, hypertension, depression, cataracts, and increased infection risk [9].

A case-series report noted that 11 of 13 patients exhibited good clinical response to low-dose systemic corticosteroids as adjunctive therapy alongside antibiotics and adalimumab. Corticosteroids may also prevent antibody formation against biologic agents, thereby enhancing the efficacy of adalimumab when used concurrently [8]. Other literature states that intermittent pulse-dose corticosteroid therapy has proven effective in avoiding common adverse effects while achieving long-term remission in patients with acute HS exacerbations [10].

Conclusion

This case highlights the potential role of low-dose systemic corticosteroids as a therapeutic option for severe hidradenitis suppurativa, particularly in healthcare settings with limited treatment availability. Further studies are needed to determine optimal corticosteroid dosing and intervals, as well as to evaluate their effectiveness in moderate-to-severe HS, especially in cases resistant to antibiotics or biologic agents. Patients receiving corticosteroid therapy should also be provided with calcium and vitamin D supplementation and undergo routine monitoring of blood glucose levels and bone density. Although this therapy demonstrated good efficacy with minimal adverse effects in this case, the risk of withdrawal symptoms remains a concern, and additional research is required to better understand its long-term benefits and complications.

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