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Hidradenitis suppurativa with SAPHO syndrome maintained effectively with adalimumab, methotrexate, and intralesional corticosteroid injections

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Abstract

Introduction: Hidradenitis suppurativa and synovitis, acne, pustulosis, hyperostosis, osteitis syndrome are chronic, debilitating diseases involving apocrine gland-bearing skin inflammation and bone inflammation, respectively. Although both often present with multiple comorbidities, single patient co-presentation is rare.

Methods/Results: This study reports the 8-year treatment course of a 40-year-old man with hidradenitis suppurativa and synovitis, acne, pustulosis, hyperostosis, osteitis syndrome, and reviews relevant literature. Initial oral and topical antibiotics had little effect. Intralesional corticosteroid injections were effective for localized inflammatory lesions but insufficient for hidradenitis suppurativa control. Adalimumab initiation and local excision of a persistent HS lesion led to stabilization. Adalimumab provided dramatic back pain improvement. Synovitis, acne, pustulosis, hyperostosis, osteitis was diagnosed; adalimumab continuation with subsequent methotrexate addition resulted in hidradenitis suppurativa-synovitis, acne, pustulosis, hyperostosis, osteitis control.

Conclusions: Literature regarding comorbid hidradenitis suppurativa and synovitis, acne, pustulosis, hyperostosis, osteitis syndrome therapy is scarce but growing. Adalimumab, methotrexate, intralesional corticosteroid, and lifestyle changes successfully maintained a severe hidradenitis suppurativa–synovitis, acne, pustulosis, hyperostosis, osteitis–syndrome case. Further studies beyond a case-based review could yield more definitive treatment plans.

Keywords

Dermatology, Hidradenitis suppurativa, SAPHO syndrome, adalimumab, methotrexate, intralesional corticosteroid injections

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Introduction

Hidradenitis suppurativa (HS) and synovitis, acne, pustulosis, hyperostosis, osteitis (SAPHO) syndrome are chronic, debilitating diseases that pose a severe impairment to patient quality of life.[1,2] HS is an autoinflammatory keratinization disease that typically affects apocrine gland-bearing skin.[1,3] SAPHO syndrome can present as (1) synovitis, synovium inflammation; (2) acne, sebaceous gland and hair follicle inflammation; (3) pustulosis, often involving the palmoplantar surfaces; (4) hyperostosis, abnormal and excessive bone growth; and (5) osteitis.[2]

Both HS and SAPHO often present with multiple comorbidities. HS can present with metabolic syndrome, cardiovascular disease, thyroid disease, polycystic ovary syndrome, acne, carcinomas, autoinflammatory syndromes, inflammatory bowel disease, pyoderma gangrenosum, arthropathy, and more rarely, carcinomas.[4] Similarly, neutrophilic disorders such as Sneddon Wilkinson, Linear IgA bullous dermatosis, palmoplantar pustulosis, Bechet's disease, Sweets syndrome, and pyoderma gangrenosum have been associated with SAPHO.[5–7] A growing number of cases have reported the co-presentation of HS and SAPHO syndrome.[8–11] This

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case-based review reports the 8-year patient treatment course of comorbid HS and SAPHO syndrome. Relevant literature about both diseases is also reviewed.

Case report

A 32-year-old Caucasian male presented in March 2009 with a 3-year history of multiple interconnecting comedones in the axilla and inguinal regions, as well as scarring from previous lesions. Embarrassment caused initial reluctance to seek medical assessment for his symptoms. He had a history of acne vulgaris, degenerative disk disease, congenital spinal stenosis, hypertension, obesity, and depression. His medications included oxycodone, irbesartan, labetalol, carbamazepine, folic acid, and sertraline. Initial treatment from 2009 to 2014 included antiseptic washes, topical clindamycin (with and without benzoyl peroxide), cloxacillin, tetracycline, cephalexin, doxycycline, amoxicillin/clavulin and desonide cream, all with limited benefit. Over the first 6 years of patient care, he had multiple visits to the clinic regarding HS lesion flares. The majority of the flares were treated effectively with low-dose intralesional corticosteroid (ILC) injections (ranged 2.5 to 5 mg/cc). Although ILC injections provided rapid relief for these individual lesions, they were insufficient for long-term disease stability. During his care period at the clinic, the patient was also diagnosed with diabetes, reduced smoking by switching to an e-cigarette, and lost 83 lbs.

Adalimumab, a tumor necrosis factor α (TNFα) inhibitor, was started in December 2014 as an 80 mg subcutaneous loading dose, followed by weekly 40 mg s/c injections with good response. His back pain improved significantly and his HS was relatively stable. He noted improved ambulation and no longer needed his assistive walking device. Adalimumab was well tolerated except for one episode of oral candidiasis.

He was maintained on adalimumab until February of 2015, when it was discontinued by a plastic surgeon while he underwent local excision of a persistent inguinal inflammatory nodule. While off adalimumab, his HS flared in the inguinal region, and required more ILC injections. His back pain worsened, and he required an assistive walking device once again. Adalimumab was re-started in March 2015 after a rheumatologist diagnosed him with SAPHO syndrome.

The adalimumab had reduced efficacy over time as new lesions began appearing and required increased potency and frequency of ILC injections. In December 2015, a weekly methotrexate dose of 10 mg (0.4 mL of 25 mg/mL) injection was added to the weekly adalimumab. Improvement was noted and flare-ups occurred less frequently. The patient began receiving intra-articular cortisone injections for inflammatory arthritis in his hands, wrists and arms with good response. He later complained of pain in the forearms and left clavicle, and as such, his methotrexate was increased to 20 mg weekly.

Currently, at 40 years of age, the patient maintains good control of his HS-SAPHO syndrome. His successful HS management plan included the following: HS flares relieved by ILC injections as needed, weekly 40 mg adalimumab, and weekly 20 mg methotrexate/folic acid. ILC requirements have decreased dramatically in recent years. Successful lifestyle changes over the duration of his case included weight loss, 2 years of smoking cessation, and increased control over his depression.

Discussion

Although rare, the co-presentation of HS and SAPHO syndrome does occur and has been documented in a few cases.[8–11] A recent study showed that HS is more common in the African-American subgroup of SAPHO patients, and it tends to be associated with high morbidity, poor response to medical therapy, and often requires surgical intervention.[10,11] A further finding in patients with comorbid SAPHO and HS is occasional ocular involvement, including acute anterior uveitis,[11] bilateral keratitis,[2] persistent proteinuria,[11] and the presence of malignant tumors. The association of HS with autoinflammatory syndromes shows that HS is an autoinflammatory rather than an autoimmune disease. The predominantly autoinflammatory feature of HS helps us better understand several aspects of its pathogenesis and explain its associations with other diseases.

HS management has been a challenge due to poor guidance for treating physicians and a paucity of good evidence.[12,13] However, evidence-based guidelines have recently been published.[12] Once HS is diagnosed by a physician familiar with the disorder and its staging, a holistic approach to care should be implemented.[12] All patients should be treated with adjuvant therapy for pain management, weight loss, smoking cessation, and appropriate treatment of superinfections.[5,12] HS treatment should be based on disease severity. Topical clindamycin or oral antibiotics of the tetracycline class are first-line treatments for mild disease.[5] If the patient fails this therapy, or has moderate-to-severe disease, clindamycin plus rifampin for 10 weeks is the next line of therapy.[5] If the patient does not respond, adalimumab should be initiated with a loading dose of 160 mg at week 0, 80 mg at week 2, and then 40 mg weekly thereafter. Therapy should be maintained as long as there is improvement and HS lesions present. Surgical intervention should be considered on an individual basis depending on disease extent and scarring, but medical management is required first to control the disease and optimize surgical outcomes. Although not curative, ILC can be considered for rapid local disease treatment.[5,13] Sometimes anti-androgen therapy is used for HS, but good evidence is lacking and use is based on anecdotal evidence and small case series.[13] Similarly, retinoids have been reported as effective in some patients, with acitretin and alitretinoin generally showing more efficacy than isotretinoin. In fact, the isotretinoin efficacy seems to be limited mainly to subgroups of patients with specific profiles[14] and the magnitude of mTORC1 signaling may be a predictor of the response to isotretinoin treatment.[15]

SAPHO Syndrome is generally treated first-line with non-steroidal anti-inflammatory drugs (NSAIDs) for pain relief but is often inadequate.[2,6,9,11] Intra-aurticular or systemic steroids are commonly prescribed but cannot be used long-term due to potential adverse effects.[6,11] Antibiotics, such as doxycycline, can be used for their anti-inflammatory properties and bisphosphonates, such as pamidronate, can be effective in controlling bone inflammation. Other conventional treatments for controlling SAPHO inflammation include immunosuppressive agents such as methotrexate, sulfasalazine, cyclosporine, and leflunomide.[6,9–11] A growing body of literature supports TNFα inhibitor use, including infliximab, adalimumab, etanercept, certolizumab pegol, and golimumab, for control of skin, bone, and joint disease in SAPHO patients.[7,9,11] Furthermore, interleukin 12/23 inhibitor, ustekinumab, has been shown to be effective in skin and occasionally osteoarticular disease in case reports.[7,11] Finally, the interleukin 1 inhibitor, anakinra, has been used alternatively when TNFα inhibitors fail.[11] Adding methotrexate to a biologic can improve efficacy and may reduce antidrug antibody formation and secondary loss of response.

Conclusion

There are therapeutic options that can manage both HS and SAPHO syndrome when treating a patient with both diagnoses.[8–11] NSAIDs, corticosteroids, antibiotics, and immunosuppressive agents have been the conventional approach.[11] Biologic agents have provided an effective, targeted therapeutic option that has changed the way a number of inflammatory conditions, including HS and SAPHO, are managed.[11–13] Our HS-SAPHO-syndrome case was managed effectively with a combination of adalimumab, methotrexate, and intralesional and intra-articular cortisone injections. Additional studies beyond this case-based review could yield more definitive treatment plans.

Declaration of conflicting interests

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Ethics Approval

Our institution does not require ethical approval for reporting individual cases or case series. We are not using photographs or identifying information in this retrospective case study.

Informed Consent

Verbal and written informed consent was obtained from the patient for their anonymized information to be published in this article.

References

1. Kouris A, Platsidaki E, Christodoulou C, et al. Quality of life and psychosocial implications in patients with Hidradenitis suppurativa. *Dermatology* 2016; 232(6): 687–691.
2. Witt M, Meier J, Hammitzsch A, et al. Disease burden, disease manifestations and current treatment regimen of the SAPHO syndrome in Germany: results from a nationwide patient survey. *Semin Arthritis Rheum* 2014; 43(6): 745–750.
3. De Vita V and McGonagle D. Hidradenitis suppurativa as an autoinflammatory keratinization disease. *J Allergy Clin Immunol* 2018; 141: 1953.
4. Porter ML and Kimball AB. Comorbidities of Hidradenitis suppurativa. *Semin Cutan Med Surg* 2017; 36(2): 55–57.
5. Moschello S and Davis MDP. Synovitis, acne, pustulosis, hyperostosis and osteitis syndrome.In: Bolognia J, Jorizzo J and Schaffer J (eds) *Dermatology*. 3rd ed. New York, NY: Elsevier, 2012, pp. 436–437.
6. Jemec JBE. Hidradenitis suppurativa. In: Leibwohl MG, Heymann WR, Berth-Jones J, et al. (eds). *Treatment of skin disease: comprehensive therapeutic strategies*. 4th ed. Philadelphia, PA: Saunders, 2012, pp. 314–316.
7. Vekic DA, Woods J, Lin P, et al. SAPHO syndrome associated with Hidradenitis suppurativa and pyoderma gangrenosum successfully treated with adalimumab and methotrexate: a case report and review of the literature. *Int J Dermatol* 2017; 57: 10–18.
8. Özyemisci-Taskiran Ö, Bölükbasi N and Gögüs F. A Hidradenitis suppurativa related SAPHO case associated with features resembling spondylarthropathy and proteinuria. *Clin Rheumatol* 2007; 26(5): 789–791.
9. Aieska De Souza M, Solomon GE and Strober BE. SAPHO syndrome associated with Hidradenitis suppurativa successfully treated with infliximab and methotrexate. *Bull NYU Hosp Jt Dis* 2011; 69(2): 185–187.
10. Richette P, Molto A, Viguier M, et al. Hidradenitis suppurativa associated with spondyloarthritis—results from a multicenter national prospective study. *J Rheumatol* 2014; 41(3): 490–494.
11. Cianci F, Zoli A, Gremese E, et al. Clinical heterogeneity of SAPHO syndrome: challenging diagnose and treatment. *Clin Rheumatol* 2017; 19: 1–8.
12. Gulliver W, Zouboulis CC, Prens E, et al. Evidence-based approach to the treatment of Hidradenitis suppurativa/acne inversa, based on the European guidelines for Hidradenitis suppurativa. *Rev Endocr Metab Disord* 2016; 17(3): 343–351.
13. Jemec GB. Hidradenitis suppurativa. *N Engl J Med* 2012; 366(2): 158–164.
14. Huang CM and Kirchhof MG. A new perspective on isotretinoin treatment of Hidradenitis suppurativa: a retrospective chart review of patient outcomes. *Dermatology* 2017; 233(2–3): 120–125.
15. De Vita V and Melnik BC. The magnitude of mTORC1 signalling may predict the response to isotretinoin treatment in patients with Hidradenitis suppurativa. *Dermatology* 2017; 233(5): 398–399.