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Local, systemic and surgical treatment of hidradenitis suppurativa - literature review

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Abstract

Introduction. Hidradenitis suppurativa (HS) is a chronic inflammatory skin disorder characterised by painful lesions found in areas with apocrine glands. HS is estimated to affect approximately 1% of the general population, with a higher incidence in females. Treatment remains challenging due to limited understanding of its causes, but recent research has paved the way for new therapeutic options.

Aim. Summarize and present information on HS local, systemic, and surgical treatment based on the latest scientific literature.

Methods. The literature review was performed using PubMed, The Wiley Online Library, and ScienceDirect databases. The following keywords and combinations of them were used: hidradenitis suppurativa, anti-bacterial agents, biological therapy, surgical therapy. Only articles written in English were selected.

Results. For mild and localised cases of HS with few lesions, topical clindamycin 1% may be considered. Patients with Hurley stages II/III and multiple ongoing lesions are often treated with systemic clindamycin combined with rifampicin 300 mg twice daily for about 10 weeks. Adalimumab is the preferred option for moderate to severe HS cases when traditional treatments fail, with clinical response rates ranging from 41.8% to 58.9%. Surgical interventions range from minimally invasive techniques like laser treatments, incision and drainage, deroofing, to more extensive procedures like wide local excisions.

Conclusions. Treatment for HS varies based on severity, ranging from local treatments for mild cases to systemic interventions like antibiotics and biological therapy for severe cases. Surgical options are also available. Managing concurrent conditions, weight, and quitting smoking are vital for better outcomes.

Keywords: hidradenitis suppurativa, anti-bacterial agents, biological therapy, surgical therapy.

1. Introduction

Hidradenitis suppurativa (HS) is a chronic inflammatory skin disorder characterised by tender, deep, and inflamed lesions commonly found in flexural areas containing apocrine glands, such as the axillary, inguinal, and genital regions. HS is estimated to affect approximately 1% of the general population, with a higher incidence in females than males, typically manifesting after puberty (1). The accumulation of keratin within hair follicles, coupled with recurring inflammation, results in the development of painful nodules and abscesses which eventually rupture, forming sinus tracts and leading to scarring (1,2). There is often a considerable delay in diagnosing HS for patients. Additionally, the condition is frequently linked to a substantial adverse effect on quality of life (2). Treating HS has continued to pose challenges due to the lack of comprehensive understanding regarding its multifaceted etiology. Nonetheless, recent research on the pathogenesis of HS has facilitated the exploration of novel therapeutic interventions (3).

2. Methods

The literature review was performed using PubMed, The Wiley Online Library, and ScienceDirect databases. The following keywords and combinations of them were used: hidradenitis suppurativa, anti-bacterial agents, biological therapy, surgical therapy. Only articles written in English were selected. The majority of the publications examined were released over the past 10 years.

3. Results

3.1. Local and Systemic Treatment

The fundamental step in assessing patients with HS involves categorising the lesions clinically. This classification is often achieved by utilising the Hurley staging system and determining the count of inflammatory lesions (4). Conducting pain assessment through a visual analog scale (VAS) and evaluating the Dermatology Life Quality Index (DLQI) before initiating treatment establishes a starting point for gauging treatment effectiveness and determining patient contentment (4–6).

Chlorhexidine wash, pyrithione zinc shampoo, bleach baths, and benzoyl peroxide are commonly utilised in the management of HS as supplementary treatments, appreciated for their anti-inflammatory characteristics and their ability to reduce the development of antibacterial resistance (7–9). The selection of a particular agent is frequently based on empirical evidence and expert recommendations (5). Intralesional steroid use can aid in managing acute inflammatory nodules alongside other therapies across all HS stages (10). Utilising low-dose systemic corticosteroids, equivalent to 10 mg of prednisolone per day, could serve as an effective supplementary treatment approach for persistent and challenging cases of HS (11).

In cases of mild and localised HS (Hurley stages I/II) with few lesions and absence of deep-seated inflammatory lesions like abscesses, topical clindamycin 1 % may be considered as a suitable treatment option. Patients experiencing multiple lesions and frequent symptom exacerbations may consider systemic tetracyclines as a possible therapeutic option (12). An antibiotic from the identical class should be administered for no more than a span of 12 weeks (6). Patients classified as Hurley stages II/III, with multiple ongoing lesions, are typically recommended to undergo treatment involving systemic clindamycin combined with rifampicin (300 mg twice daily), typically administered for an average duration of approximately 10 weeks (13). According to the European S1 guidelines, antibiotics can be prescribed for a duration of up to three months. If

there is a recurrence, antibiotics can be reintroduced, but this is contingent upon their effectiveness during the previous course of treatment (7). Some studies also suggest that a triple treatment consisting of rifampicin (10 mg/kg once daily), moxifloxacin (400 mg once daily), and metronidazole (500 mg three times daily) can potentially provide effective results for individuals in Hurley stage I and II. Metronidazole should be stopped after six weeks of treatment, with a total treatment duration of up to 12 weeks (14). For specific individuals with severe HS, it might be appropriate to consider a six-week regimen of intravenous ertapenem (1 g daily), followed by a consolidation phase of treatment with rifampicin, moxifloxacin, and metronidazole. However, this shall not be the first choice of treatment and it is essential to use this regimen with proper supervision and monitoring (14,15). In moderate to severe cases of HS where traditional treatments have failed, adalimumab should be considered the preferred option (16). Two Phase 3 trials were conducted, each consisting of two double-blind, placebo-controlled periods, assessing the use of adalimumab in the treatment of HS. Clinical response was assessed at week 12. The clinical response rates were notably greater in the groups receiving weekly adalimumab compared to the placebo groups. In PIONEER I, the percentage was 41.8 % compared to 26.0 %, while in PIONEER II, it stood at 58. 9% versus 27.6 % (17).

Patients with HS experience disruptions in the T-helper 17 cell axis. The hypothesis suggests that the treatment of HS could be achieved by lowering circulating interleukin (IL)-17A levels through the use of anti-IL-17A biologics like secukinumab (18,19). Two identical phase 3 trials, conducted at multiple centers were carried out. The primary endpoint of the study was percentage of patients achieving a Hidradenitis Suppurativa Clinical Response (HiSCR), defined as a reduction of 50 % or more in the count of abscesses and inflammatory nodules, without any increase in the number of abscesses or draining fistulae compared to the baseline, at the 16-week mark. In the SUNSHINE trial, a considerably higher proportion of patients in the secukinumab group, administered every two weeks, achieved a HiSCR at week 16, with a rate of 45 %, as opposed to the placebo group, which achieved a rate of 34 %. In the SUNRISE trial, there was a notable difference in HiSCR among the groups. Specifically, 42 % of patients in the secukinumab group receiving treatment every two weeks and 46 % of patients in the secukinumab group receiving treatment every four weeks exhibited a clinical response, in contrast to the 31 % in the placebo group (20).

Effective pain management is a crucial aspect of addressing HS, as the pain associated with this condition can stem from both inflammatory and non-inflammatory sources. The sources of pain may include scarring (resulting in tensile pain), keloids, open ulcerations, abscesses, sinus tracts, frictional discomfort, anal fissures, lymphedema, and arthritis. Depending on the severity of the disease and the nature of the pain, various approaches can be considered. These may involve topical agents such as lidocaine and anti-inflammatories, systemic nonsteroidal anti-inflammatories, acetaminophen, atypical anticonvulsants like gabapentin or pregabalin, and serotonin-norepinephrine reuptake inhibitors. Duloxetine can be particularly beneficial in cases where there is comorbid depression (21,22).

Irrespective of the disease stage, treatment should encompass addressing comorbidities that contribute to the onset or exacerbation of the condition. Individuals who are above their ideal weight or are smokers tend to experience more severe disease progression. Therefore, it is essential to include

counselling and assistance for weight loss and smoking cessation as integral components of the treatment approach (23).

Treatment should also encompass efforts to prevent skin trauma. This can be achieved by discontinuing the use of tight or synthetic clothing, refraining from harsh products or abrasive cleaning tools like loofahs, washcloths, or brushes, and avoiding adhesive dressings (24).

3.2. Surgery

Various surgical interventions are available, requiring a personalised approach for each patient. The selection of a surgical approach hinges on a multitude of factors, encompassing the duration and scope of the condition, the location of the affected area, the existence of persistent lesions, and the patient's accompanying health issues. Surgical interventions for HS encompass a spectrum of pro-cedures, spanning from minimally invasive tech-niques like laser treatments and minor surgical steps such as incision and drainage or deroofing, to more extensive procedures like wide local excisions (25).

In cases of acute urgency, surgical incision and drainage can be performed on tense and painful abscesses, known as fluctuant lesions. Nevertheless, it's important to note that viewing incision and drainage as a sole treatment option is not advisable, as recurrence is highly likely (3). Surgical procedures, such as limited excision, deroofing, and Skin-Tissue-Sparing Excision with Electrosurgical Peeling (STEEP), may be utilised for isolated lesions. They may also be considered for recurrent HS lesions in specific, persistent locations or when fistulas or sinus tracts form within restricted areas (26). Extensive excision is necessary for severe, widespread disease (3). Chronic HS lesions that have remained non-inflammatory for an extended period can be surgically removed to reduce the risk of future recurrence (27,28). A longitudinal observational study involving a diverse group of HS patients in the United States has shown that both biologic treatments and surgical interventions for HS are linked to enhanced disease activity scores. Notably, the impact of biologic therapies was most significant when utilised in conjunction with HS surgery (29).

3.3. Prognosis

The prognosis can vary, but it becomes less favourable if there is a delay in diagnosing and treating the disease in its early stages, and if comorbid conditions such as smoking and obesity (if they are present) are not effectively addressed and improved. Over the course of a 22-year cross-sectional study, 39.4% of the participants indicated that they had achieved remission from HS. It seems that risk factors that were previously under suspicion had an impact on the likelihood of achieving remission, as most patients who reported being in remission had either quit smoking or had never smoked. In parallel, the absence of obesity was significantly associated with a greater frequency of self-reported remission. Nevertheless, genetic factors might also contribute, as a family predisposition seemed to decrease the chances of remission, suggesting that genetics could be a significant etiological factor as well (30).

4. Conclusions

The treatment of hidradenitis suppurativa presents a multifaceted challenge, requiring a personalised approach tailored to the severity of the disease. It includes local treatments for milder forms and systemic interventions such as antibiotics and biological therapy for more severe cases. An array of surgical interventions is available, contingent upon the severity of the disease. Treatment should

encompass the correction of concurrent conditions, weight management, and cessation of smoking to enhance treatment prognosis.

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