Recurrence of hidradenitis suppurativa after surgical management: A systematic review and meta-analysis

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Background: Hidradenitis suppurativa (HS) is a chronic inflammatory disease of apocrine-bearing skin. Treatment is challenging and long-standing. Surgery is one of the treatment options with varying reported success rates.

Objective: This study provides a comprehensive systematic review of surgical approaches in the management of HS.

Methods: A systematic literature search and meta-analysis of proportions were performed on the included studies.

Results: Of a total of 1147 retrieved articles, 22 were included in the analysis. These were the estimated average recurrences: wide excision, 13.0% (95% confidence interval [CI], 5.0-22.0%); local incision, 22.0% (95% CI, 10.0-37.0%); and deroofing, 27.0% (95% CI, 23.0-31.0%). In the wide excision group, recurrence rates were as follows: 15% (95% CI, 0-72%) for primary closure, 8% (95% CI, 2.0-16.0%) for using flaps, and 6.0% (95% CI, 0.0-24.0%) for grafting. The secondary intention healing option was most commonly chosen after local excision and deroofing.

Limitations: There was poor quality evidence and potential improper reporting of the results.

Conclusion: This systematic review found lower recurrence rates with wide excision, using skin flaps or skin grafts as the closure methods. The heterogeneity of the patient populations was high and statistically significant within and across all types of excisions. (J Am Acad Dermatol 2015;73:S70-7.)

Key words: hidradenitis suppurativa; recurrence; surgery; systematic review.

INTRODUCTION

Hidradenitis suppurativa (HS) is a chronic and recurrent inflammatory follicular disease that commonly affects the intertriginous areas of skin. The spectrum of clinical presentations includes individual follicular nodules, deep dermal abscesses, interconnected draining sinus tracts, and hypertrophic scars. Ongoing inflammation may produce fibrosis, contractures, scars, and significant patient morbidity. Locations affected can include the axillae (the most common site), inguinal, perianal, perineal, gluteal, inner thighs, mammary, submammary, pubic, scrotum, vulva, chest, scalp, and retroauricular areas.[1]

The prevalence of HS varies in different populations, but may range from 1% to 4%.[2-4] The

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age of onset is usually between puberty and 40 years of age, and HS affects women 3 times more frequently than men.[5] The pathogenesis is not fully understood; however, potential influences include genetic susceptibility, environmental issues, such as smoking and obesity, endocrine causes, and microbiologic factors.[6]

The diagnosis of HS is primarily clinical and is based on the topography, morphology, and chronicity of the lesions. Occasionally, skin biopsy, bacterial culture, and/or imaging may be required to exclude other diagnoses.[4] The HS phenotypic heterogeneity has been reflected in several different classification systems with some predictive validity correlated with clinical features.[6] Using the Hurley clinical staging system, the disease can be classified into 3 stages based on disease severity.[7]

CAPSULE SUMMARY

- Excisional surgery is the mainstay of treatment for hidradenitis suppurativa, particularly when advanced.
- Lower recurrence rate may be associated with wide surgical excision followed by flaps or grafts for closure.
- When indicated, optimal surgical management may be achieved with extensive removal of involved tissue.

A variety of HS surgical treatments have been performed with varying degrees of success. Surgical excision of the affected skin tissue with adequate free margins has been reported with success to prevent recurrence, especially in advanced stages.[8,9]

Surgical approaches include incision and drainage, deroofing, and local and wide excision. Options for healing after wide surgical excision include primary closure, secondary intention wound healing, skin grafting, and skin flaps. The choice of surgical excision method and the pathway of healing may depend on various factors, including the size and location of the lesions and patient-related concerns.[10] For the purposes of this study, recurrence rates for specific reconstructive procedures were evaluated, and we excluded patients with secondary intention healing. In addition, the evaluation of recurrences after primary laser surgical removal of abnormal HS tissue was also beyond the scope of this review.

This study provides a comprehensive systematic review of the surgical options, with a comparison of the postoperative recurrence rates.

METHODS

Systematic literature search

The study was conducted using the guidance from Preferred Reporting Items for Systematic reviews and Meta-Analysis protocols (PRISMA flowchart).[11] We performed a systematic review of studies investigating the postoperative recurrence rate in patients with HS, published between 1990 and the end of March 2015. Studies were systematically searched in PubMed, EMBASE, and the Cochrane Central Register of Controlled Trials (CENTRAL). The reference lists of included and excluded articles were also checked for further references. The literature search used the following combination of terms: "hidradenitis suppurativa," "acne inversa," "verneuil disease," and "surgery." The literature search was limited to articles written in English. Two authors performed the systematic electronic searches and data extraction independently (A.M. and M.B.). All disagreements were discussed by the 2 authors in order to reach final agreement.

Data extraction

For each eligible article, the information for the following items were extracted, if available: first author, year of study, study design, location of lesion,

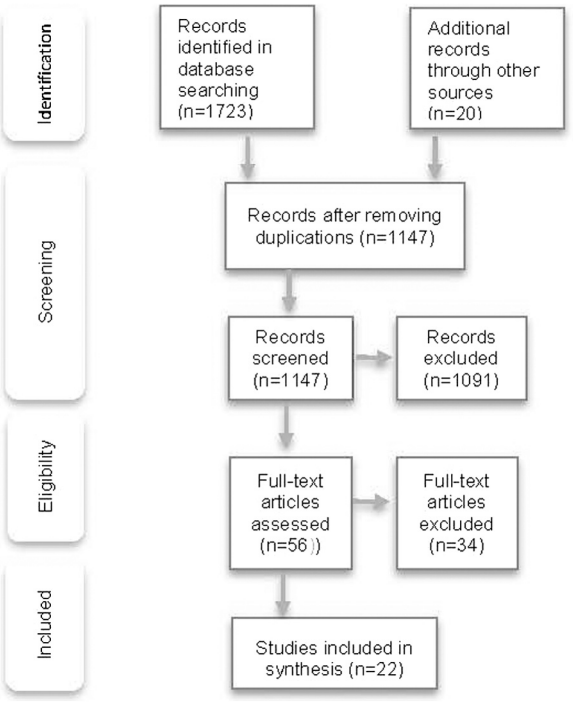

Fig 1. Hidradenitis suppurativa. Preferred Reporting Items for Systematic reviews and Meta-Analysis flowchart.