Surgical treatment of chronic hidradenitis suppurativa in the gluteal and perianal regions

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INTRODUCTION

Hidradenitis suppurativa (HS) is a chronic inflammatory disease of the skin involving the apocrine gland-bearing areas, including the axillae, groin, perineal, and perianal regions.¹⁻³

Hidradenitis suppurativa (from the Greek hidros, sweat; aden, glands) was first described by Velpeau, a French physician, in 1839.⁴ In 1854, this condition was termed "hidrosadenite phlegmoneuse" by Verneuil, a French surgeon, who also suggested an association between HS and sweat glands.⁵

HS is not uncommon; the prevalence in the general population is 1%. It is approximately 3 times more common in female patients than in male patients.⁶⁻⁷

Although its pathophysiological mechanism is poorly understood, it is generally believed that obstruction of the apocrine or follicular pores results in glandular dilatation and bacterial superinfection, with subsequent gland rupture disseminating infection throughout the subcutaneous tissue plane. Consequently, hidradenitis is associated with chronic painful abscesses, multiple odiferous sinus tracts, and chronic fibrosis with range-limiting scar formation.

In this report, we present our experience with moderate and extensive gluteal and perianal HS cases.

PATIENTS AND METHODS

This study reviewed the cases of 6 patients with moderate to extensive chronic HS who were treated surgically in our general surgery clinic between January 2001 and December 2010, with a follow-up after at least 6 months. Five of the patients were male, and 1 patient was female. The mean age at the time of presentation for operative management was 42.5 years (range: 27-49 years), and the mean duration of symptomatic disease was 5.3 years (range: 4-12 years). Most of the patients were treated by nonsurgical or inadequate surgical treatment, such as:

Methods: A retrospective re-view of 6 patients’ medical records from January 2001 to December 2010.

Results: The 6 patients underwent treatment for HS in the gluteal and perianal regions with surgical excision. Five of the patients were male (83%). The median age was 42.5 years. We performed a total of 8 operations on these patients. In 3 patients, the wound was left open for secondary healing, and the mean time for complete wound healing was 11.3 weeks (range: 9.5-19 weeks). Delayed skin grafting was used for 2 patients in whom the wounds had been left open after the first operation. In this group, complete wound healing took 2 months in total. One patient underwent primary wound closure using rotation flaps, with a complete healing time of 2 weeks. Successful treatment without recurrence was accomplished in 5 (83.3%) of the patients.

Conclusion: The conservative treatment methods had little effect, particularly on gluteal and perianal/perineal HS. The only successful treatment was wide surgical excision. Management of the wound after wide excision should be tailored to the individual patient.

Key words: hidradenitis suppurativa, apocrine gland, treatment, gluteal, perianal.
short-term antibiotic treatment, local wound care, and abscess drainage for long periods.

Total surgical excisions were performed on all the patients under general anesthesia. All the patients underwent surgery in the lithotomy, jackknife, supine, or prone positions. The operative technique was chosen on the basis of complete excision of the diseased skin and subcutaneous fatty tissue and down to the muscular fascia in aggressive cases.

RESULTS

A total of 9 operative procedures were performed during the study period.

The Hurley clinical staging was used to classify the patients (Table 1). Hurley’s 9-3 stages of HS are as follows:

In 3 patients (Hurley stage II), the wound was left open for secondary healing and the mean time for complete wound healing was 11.3 weeks (range: 9.5-19 weeks). Delayed skin grafting was used in 2 patients (Hurley stage III) in whom the wounds had been left open after the first operation. In this group, complete wound healing took 2 months in total. One patient (Hurley stage III) underwent primary wound closure using fasciocutaneous transposition flaps, requiring 2 weeks for complete healing. Successful treatment without recurrence was accomplished in 83.3% of the cases. In our study, we did not use primary closure because of large wound formation.

The surgical margins were at least 1-1.5 cm in the gluteal region and extended down to the muscle fascia. In the perianal region, the lesions were excised by protecting the external anal sphincter. Colostomy was not performed for any of the patients.

The duration of hospitalization was related to the extent and severity of the lesions, and the mean hospitalization duration was 5 days (range: 2-34 days). All the patients were followed up, with daily dressing changes. The patients were followed up for a mean of 6 months (range: 4-9 months).

None of the operative specimens showed histologic evidence of squamous cell carcinoma or other malignancies.

DISCUSSION

HS remains a challenging disease for the patient and physician. It is a chronic, debilitating disease with an etiology that is still controversial.1

Women are affected 3 times as often as men; the reason for this is unknown.6,10

Because HS is rarely observed before puberty or after menopause and the recurrence of acute disease has appeared after hormone administration,11 several investigators have suggested that the condition may be caused by an endocrine abnormality.12,13,14 Obesity, diabetes, and a genetic predisposition to acne have been identified as predisposing factors,13,16 which have been hypothesized to inhibit glandular function and lead to obstruction of the glandular ducts. Previous claims that poor hygiene, excessive shaving, tight-fitting clothes, and the use of depilatories or deodorants are causative agents have not been substantiated.17,18,19

Smoking was found to be significantly more prevalent in patients with HS (88.9%) than in a matched-pair control group (46%) of non-HS patients.20 Smoking induces altered chemotaxis of polymorphic neutrophils, which may play a role in etiology, as has already been postulated for palmoplantar pustulosis.21,22 There was an association between cigarette smoking and perianal HS in 70% of the patients in 1 series.15 Smoking cessation could reasonably be strongly encouraged in patients with HS.

In one study, Streptococcus milleri was the most frequently isolated bacterium in HS,23 and Bacteroides fragilis and B. meleninogenicus were anaerobic bacteria frequently isolated by another group.24 Chlamydia trachomatis has been reported in active anogenital HS.25 The cultures of the samples taken from early HS lesions were negative in half of the cases.26 The authors concluded that HS is primarily a disease of the follicular epithelium being secondarily colonized and infected by bacteria.

However, as abscesses extend deeper into subcutaneous tissue, intercommunicating sinus tracts develop, resulting in irregular hypertrophic scars.27 Rarely, the chronic inflammation results in malignant transformation to squamous cell carcinoma.28

The pathophysiological features of HS are controversial. Recent studies suggest that HS is linked to hyperkeratosis of the follicular gland resulting in its occlusion or a dilatation and inflammation of the cystic cavity.29,30

Because of the varying clinical manifestations and sites affected by the disease, patients with HS are referred to many different specialties, including surgery, gynecology, medicine, dermatology, plastic surgery, immunology, and infection control. No specific diagnostic test exists. Inflammatory abscess-like swelling in apocrine gland-bearing skin should be regarded as possible HS.

The diagnosis and operative treatment of HS is decided on the basis of the presence of recurrent disease, multifocal involvement, and scarring. Patients typically present with abscesses, sinuses, and intermittent acute infections. The symptoms include pain, decreased mobility of the involved area, strictures, and malodorous drainage.

### TABLE 1

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<th>Stage</th>
<th>Characteristics</th>
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<td>I</td>
<td>Solitary or multiple isolated abscess formation without scarring or sinus tracts.</td>
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<tr>
<td>II</td>
<td>Recurrent abscesses and single or multiple widely separated lesions, with sinus tract formation.</td>
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<tr>
<td>III</td>
<td>Diffuse or broad involvement across a regional area with multiple interconnected sinus tracts and abscesses.</td>
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Patients with HS typically present with symptomatic disease during the second to fourth decades of life, as was the case in our series. Clinicians should be aware of the other possible sites of HS. The following sites are recognized: the axillaries; inguinal, perianal and perineal and mammary and inflammatory regions; buttocks; pubic region; chest; scalp; and retroauricular and eyelid skin.31

Medical treatment for mild, acute disease includes oral antibiotics, topical antiseptics, and warm compresses. Other medical treatment options include topical clindamycin, topical or intralesional steroids, retinoid therapy,7,35,36 antiandrogens,36 and immunosuppressive agents.37,39 The success of these therapies, however, is often limited because of the indolent and recurrent nature of the disease. Conservative treatment and abscess incision are usually ineffective.1,38 Operative excision of the involved follicles and inflammatory process is the only curative treatment.4,6

A recent German study retrospectively reviewed 231 patients who had undergone radiotherapy for the treatment of HS, with "complete relief of symptoms" in 89 (38%) of the patients and a "clear improvement of symptoms" in 92 (40%).39 There is no evidence that treatment, other than surgery, has any effect on the natural history of severe HS.40 Recurrence occurs in 3-37% of the cases.41 Recurrence was concluded to occur as a result of either inadequate excision or an unusually wide distribution of apocrine glands.

Various surgical methods for the treatment of HS have been described previously. Wide local excision with skin grafting, skin flap transfer, and primary closure are common. However, with the popularization of surgical methods using fasciocutaneous or musculocutaneous flaps in the field of plastic surgery, these flaps have been applied for the treatment of HS with positive results.6

Operative excision of the involved follicles and inflammatory process is the only curative treatment. Although there is a general agreement that wide excision of all involved skin and soft tissue, Parks and Parks42 have recommended excision of all hair-bearing skin and excision to the deep underlying fascia to ensure removal of all the apocrine glands.

Ariyan and Krizek,43 and Thornton and Abcarian44 recommend excision and secondary healing for patients with more extensiveinguinoperineal and perianal-perineal disease, respectively, noting that the need for colostomy was rare. In addition, most investigators have reported healing times shorter than 3-7 weeks. Silverberg43 noted that healing occurred in 2-5 months, during which time open wound management and analgesics were necessary. Hyland and Neale46 and Ramasastry47 recommended wide excision of perianal disease with delayed skin grafting as a means of reducing patient discomfort and effecting more rapid and stable wound closure. In this study, we presented a case series including extensive and severe HS. We believe that excision with wide margins and adequate depth, and reconstruction with appropriate methods lead to good results in controlling the disease and preventing recurrence.

CONCLUSION

HS is a complex and debilitating disease that is still poorly understood. The control of sinus formation is likely the key to the condition. No medical treatment resolves sinuses once formed, and only radical surgery may succeed in its ability to eradicate sinuses.

HS is a disease that has many different treatment modalities. The surgical option has wide variability according to the affected areas. Operative excision is the only treatment modality that has a significant effect on the course of the disease. Although there have been many suggested approaches to the operative treatment of this disease, we believe that it is very important to choose the surgical operation most appropriate to the diseased area to avoid recurrence.

SUMMARY

HIRURŠKI TRETMAN HRONICNOG SUPURATIVNOG HIDRADENITISA GLUTEALNE I PERINEALNE REGIJE

Uvod: Verneuil-ova bolesti ili preainalni supurativni hidradenitis (HS) je hronično supurativno oboljenje sa skloonošću kao razvoju sinusa, fibroze i skleroze, što sve zajedno bitno ugrožava kvalitet života. HS zahvata apokrine znjone ili lojne žlede i može se javiti u svakoj regiji kože gde ove žlede preovladaju: u aksilarkoj regiji, areolama, pupku, perineumu, preponama i u glutealnoj regiji. Mi predstavljamo nekoliko slučajeva umerne i izražene forme ovog oboljenja, metode lečenja i postignute rezultate.


Kljучне реčи: supurativni hidradenitis, apokrine žlede, lečenje, glutealna regija, perianalna regija
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