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Original Research

Men, main victims of hidradenitis suppurativa (A prospective cohort study)

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ABSTRACT

Background: Hidradenitis suppurativa (HS) is a chronic inflammatory disease presenting as painful subcutaneous nodules, characterized by multiple abscess, inter-networking sinus tracts. We present the option of surgical treatment involving wide surgical excision and methods of reconstruction as well as the rate of recurrence.
Method: This study reviewed 44 sites in 21 patients with moderate to extensive HS treated surgically in our hospital from 2000 to 2016, with a follow up of at least 24 months.
Results: A total number of 44 operative procedures were performed during the study period with 13.6% (6 sites) involving axilla, 38.6% (17 sites) involving the gluteal area, 29.5% (13 sites) involving the perineal and perianal area and 11.4% (5 sites) involving the inguinal region, 4.5% (2 sites) involving the scrotal area, and 1.3% (one case) retrorectal abscess.
Conclusion: Conservative treatment methods have little or no effects especially on gluteal, perineal/perianal and axillary hidradenitis suppurativa. The morbidity associated with the established disease is significant, and the only successful treatment is wide surgical excision.

1. Introduction

Hidradenitis suppurativa is a chronic inflammatory disease presenting as painful subcutaneous nodules [1]. It is characterized by multiple abscesses inter-networking sinus tracts, foul-smelling exudate from draining sinuses, inflammation in the dermis, both atrophic and hypertrophic scars, ulceration, and infection.

The current pathophysiologic mechanism is that there is follicular occlusion, and not an apocrine disorder as previously believed. Conservative approaches alone are not effective as a long-term treatment. They are, however, a good adjunct to the surgical treatment [1,2]. Insufficient debridement is the major factor for high recurrence rate [1–3]. Healing of wounds by secondary intention results in poor aesthetic outcome and of dressing is tedious for patients.

Currently available medical treatments are insufficient and their efficacy is transient. As a result, advanced-stage severe HS requires invasive surgical removal of all the involved tissue [1–4]. in this report, we present our experience with moderate and extensive perianal, perineal, axillary, inguinal, gluteal, scrotal hidradenitis suppurativa, and retrorectal cases, including our treatment, methods, and outcomes.

2. Patients and methods

This study reviewed 44 sites in 21 patients with moderate to extensive HS treated surgically in our hospital (Tabriz, IRAN) from 2000 to 2016, with the follow up of at least 24 months. By using a standardized data-collection form, the following information was obtained: age, sex, BMI, smoking, addiction, affected sites, size of HS, cleaning habitus, family history of HS, and number of previous operations. The diagnosis has been made clinically without the need for imaging or laboratory tests. We did not use rectal tube for prevention of the surgical field from contamination with stool in the patients with perianal or gluteal lesions. Colostomy was not used in any patients for this purpose.

Total surgical excisions were performed under spinal or general anesthesia on all patients. All patients were operated on in the lithotomy, jackknife, supine or prone positions according to site of HS. The operative technique was complete excision of the entire diseased skin and subcutaneous fatty tissue and down to the muscular fascia on aggressive cases. Patients with limited disease involving the axilla or inguinal region were selected for excision and primary closure if the skin and soft tissue could be mobilized adequately. Preoperative and postoperative antibiotherapy is administered for all patients according to wound tissue culture test results.

Hurley's clinical staging was used for the classification of patients (Table 1) [4]. Excision and primary closure was used only for moderate (Hurley stage II) axillary and inguinal disease, whereas wide local excision and split-thickness skin grafting or fasciocutaneous flap was the mainstay of treatment in patients with diffuse (Hurley stage III). We excluded Hurley stage I from this study. These findings were entered on

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Table 1
Hurley staging system.

Stage	Stage characteristics
I	Solitary or multiple isolated abscess formation without scarring or sinus tracts
II	Recurrent abscess, single or multiple widely separated lesions with sinus tract formation
III	Diffuse or broad involvement across a regional area with multiple interconnected sinus tracts and abscesses

a computer by means of an SPSS 19 (Chicago, Illinois) data base file designed by the authors and analyzed using SPSS 19 program for chi-square test, Fisher's Exact test, or Student *t*-test for unequal variance where appropriate. The level of significance by comparing two or multiple variables in X^2 test or Student *t*-test was set at $P \leq .05$. The work has been reported in line with the STROCSS criteria [5].

3. Results

This study reviewed 44 sites in 21 patients with moderate to extensive HS treated surgically in our hospital from 2000 to 2016, with the follow up of at least 24 months (Table 2). Nineteen (90.5%) were men and two (9.5%) women. The mean age at the presentation for operative management was 47.4 years (SD: 16.14), (range: 19–71 years) and the average duration of symptomatic disease was 8.7 years (range 2–30 years). None of these patients were detected to have any comorbid or associated conditions. According to answers about cleaning habits, personal hygiene was poor in 91% of the patients.13 of 19 (68.4%) male patients were smokers and 6 of 19 (31.6%) were addict. All of included patients had previously been prescribed a treatment by non-surgical or inadequate surgical treatment modalities such as short term antibiotic treatments, local wound care and abscess drainage for long periods (up to 30 years). Ten patients previously were treated by limited local excision and primary closure. 33.3% (7 cases) had positive family history of HS. There were two squamous cell carcinoma superimposed on HS in permanent pathology.

Affected sites were axillary 13.6% (6 sites), inguinal 11.4% (5 sites), gluteal 38.6% (17 sites), perineal and perianal 29.5% (13 sites), retrorectal abscess with perianal and perineal involvement 1.3% (one case) and 4.5% (2 sites) involving the scrotal area. No significant relationship between HS and BMI, age, addiction, job, and site of the lesions. There is significant correlation between HS and sex and smoking ($P < .05$). 90.5% (19 patients) showed no complication after surgery. The average time of hospital stay period was 5 days. Physiotherapy and postoperative rehabilitation were also done. After follow up (mean follow up time is 24 months), all of the patients showed no recurrence. Figures (pictures of before and after operations) of cases (cases of 15, 13, 3, 6, and 12) were shown in Figs. 1–5.

4. Discussion

Hidradenitis suppurativa remains a challenging disease for both the patients and the physician. Because of the varying clinical manifestation and sites involved by the disease, patients with HS present to, or are referred to many different specialties including plastic surgery, surgery, dermatology, Gynecology, medicine, immunology and infection control. Unfortunately, HS is commonly mismanaged owing to a

Table 2
Distribution of 21 patients according to job, sex, age, BMI, smoking, addiction, site of involvement, defect size, and number of previous surgical operation.

Patient.no	Job	Sex	Age (years)	BMI	Smoking	Addiction	Site of involvement	Defect size (cm, cm^2)	Number of Previous surgical operation
1	Free employment	male	54	24.3	+	+	Bilateral gluteal	40 × 37 = 1480	3
2	Farmer	male	53	21	+	–	Left inguinal	21 × 19 = 777	2
3	Free employment	male	62	27.8	+	–	Bilateral gluteal	53 × 47 = 2491	0
4	Farmer	male	71	26.2	–	–	perineal	23 × 31 = 713	1
5	Free employment	male	59	23.6	–	–	Perineal + gluteal	51 × 48 = 2448	1
6	Free employment	male	38	25.7	+	+	Bilateral gluteal	49 × 62 = 3038	3
7	Free employment	male	67	28	+	–	Perineal + gluteal	30 × 37 = 1110	2
8	worker	male	51	21	+	–	Bilateral inguinal	20 × 23 = 460 22 × 27 = 594	3
9	worker	male	69	25.4	+	–	Bilateral axillary	15 × 10 = 150 13 × 12 = 156	1
10	worker	male	32	26.3	–	–	Inguinal + perineal	10 × 7 = 70 8 × 7 = 56	1
11	worker	male	41	29	+	+	Bi-axillary	8 × 7 = 56 7 × 6 = 42	0
12	worker	male	21	23	+	+	Perianal, perineal, and scrotal in continues	13 × 15 = 195	0
13	Free employment	male	56	27	+	+	Perineal and scrotal	20 × 17 = 340	1
14	Free employment	male	45	24.1	–	–	Bigluteal in continues with right inguinal	37 × 28 = 1036	2
15	worker	male	33	22	–	–	bigluteal	13 × 19 = 247	1
16	worker	male	56	23.7	+	–	Perineal and perianal	11 × 9 = 99	0
17	housekeeper	female	57	26.8	–	–	Right gluteal	12 × 7 = 84	0
18	farmer	male	58	22.6	–	–	Bigluteal and intergluteals and perineal, axillary	51 × 45 = 2295 10 × 7 = 70	3
19	student	male	19	22	+	–	axillary	12 × 8 = 96	1
20	scholar	female	21	23	–	–	Perineal, bigluteal, and retrorectal abscess	37 × 45 = 1665	4
21	worker	male	32	20.3	+	+	Perineal, perianal and retrorectal abscess	21 × 19 = 399	2