

## Original Research Article

# Challenging treatment of hidradenitis suppurativa with happy ending

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### ABSTRACT

**Background:** Hydradenitis suppurativa (HS) is a chronic, recurrent and inflammatory disease which involves skin and subcutaneous fatty tissue. The aim of this study was to retrospectively evaluate the treatment results of 12 patients who were diagnosed as hidradenitis suppurativa with local or multiple site involvements in our clinic.

**Methods:** Data of 12 patients with local or multiple site involvement, who had hidradenitis suppurativa surgery between January 2013 and January 2018 were evaluated retrospectively.

**Results:** Twelve patients, who were male, were included in the study. The average age was 39.4 (25-56) years old. A total of 5 patients were with local and 7 patients were with multiple region involvements. 8 patients had axillary, 3 patients had genitalia, 4 patients had perianal and 7 patients had sacral region involvements. Two of 4 patients with perianal region had protective stomas. In total, 16 surgical procedures were performed to the patients. In 6 patients, some parts of wounds were primary closed and followed-up with secondary healing. Skin grafting was performed for the four of these patients in late period. In 4 patients, defects were closed with primary closure and with rotation flaps in 2 patients. No recurrence was observed among the patients. The average duration of follow-up was 32.5 months.

**Conclusions:** The surgical treatment process of hidradenitis suppurativa, which is a chronic disease, is not more difficult and longer than its natural course. In recent years, complete recovery can be achieved with current surgical methods.

**Keywords:** Total excision, Stoma, Hidradenitis suppurativa, Flap

### INTRODUCTION

Hydradenitis suppurativa (HS) is a chronic, recurrent and inflammatory disease which involves skin and subcutaneous fatty tissue. It is also known as Verneuil's disease or acne inversa.<sup>1</sup> It is seen four times more in females than males.<sup>1,2</sup> In 1839, Velpeau described it in axilla, breast and perianal regions.<sup>3</sup> HS is most commonly involved in axilla, inguinal and perianal regions. Its clinical presentation ranges from several non-flux sinuses to suppurative abscess lesions covering the entire area.<sup>4</sup> Its pathophysiology is still unclear. However, with the occlusion of apocrine and follicular pores, glands enlargement and related bacterial superinfection develop.

It is thought to occur as a result of rupture of glands and infection of subcutaneous tissue.<sup>5</sup> Especially long-term complaints such as recurrent painful, abscess lesions and malodorous discharge bring a serious distress on patients' physical, psychological and social aspects. Therefore this may result in tendency of the isolation from society, impaired relationships with people and depressive disorders.<sup>6,7</sup>

Diabetes, bad hygiene, obesity, tight clothing, smoking etc. have been implicated for triggering or recurrence of the disease.<sup>8,9</sup> Although medical methods are not sufficient alone to treat HS, they can be beneficial when they are used as adjuncts to the surgical treatment.<sup>10-12</sup> Therefore, the most effective treatment is surgical

excision. Abscess drainage with palliative drainage can be performed locally but recurrence rates are still high.<sup>13</sup> The main objective of surgery is to completely remove all apocrine glands, which are radically infective. The area of defected tissue that remains after these excisions can be primary closed, or secondary healed, or closed with rotation flaps due to the large number of tissue defects. Skin grafting can be performed after secondary healing.<sup>14,15</sup> In this study, we aimed to retrospectively evaluate the treatment results of 12 patients who were diagnosed as hidradenitis suppurativa with local or multiple site involvements in our clinic.

## METHODS

The data of 12 patients who were underwent surgery with diagnoses of hidradenitis suppurativa with local or multiple site involvements in the Department of General Surgery between January 2013 and January 2018 were evaluated retrospectively. The patients were evaluated with respect to age, gender, area of involvement, surgical method, complete recovery time after surgery, necessity of stoma, complications, duration of follow-up, and recurrence rates. Patients were diagnosed with their physical examination findings. Disease severities were measured according to Hurley classification. The specimens that were sent after surgeries were histopathologically examined and the diagnosis of hidradenitis suppurativa was confirmed. The patients were operated in lithotomy, jack knife or prone positions under general or regional anesthesia according to the involvement areas of the disease. All patients underwent radical total excision that covers from skin and subcutaneous fatty tissues to muscle tissues (Figure 1). The surgical margin was determined as the end of the infected tissue and the beginning of the healthy tissue. Scalpel and electrocautery were used during surgical excision. After the excision, tissue defect was removed with primary closure, secondary healing, late skin grafts, and / or rotation flaps (Figure 2-4). Skin grafting was performed at least 3 weeks after the first operation. The patients who were discharged were followed up weekly until the complete wound healing was achieved. After recovery, patients were examined in the 1<sup>st</sup>, 3<sup>rd</sup>, 6<sup>th</sup> and 12<sup>th</sup> months for recurrence and complications.



**Figure 1: Radical total excision.**



**Figure 2: Primary closure.**



**Figure 3: Secondary healing, skin graft.**



**Figure 4: Rotation flap.**

## RESULTS

Twelve patients, who were male, were included in the study. The average age was 39.4 (25-56) years old. A total of 5 patients were with local and 7 patients were with multiple region involvements. 8 patients had axillary, 3 had genitalia, 4 had perianal and 7 had sacral region involvements. All patients were evaluated as stage 3 according to the Hurley classification. Two of 4 patients with perianal region had protective stomas. In total, 16 surgical procedures were performed to the patients. In 6 patients, some of wounds were primary closed and followed-up with secondary healing. Skin

grafting was performed for the four of these patients in late period. In 4 patients, defects were closed with primary closure and with rotation flaps in 2 patients. Protective stomas of 2 patients were closed after wound healing was completed and no complications were

observed. In two patients with primary closure, there were separations on the suture line. They were treated with wound care. No recurrence was observed among the patients. The average duration of follow-up was 32.5 months.

**Table 1: Data of patients.**

Case	Age	Involvement Area	Stoma	Surgery	Recurrence	Duration of follow-up (Month)
1	45	A,G,P	-	Primary closure, Secondary healing, skin graft	-	12
2	38	G,P,S	+	Secondary healing, skin graft	-	25
3	31	A,P,S	+	Primary closure, Secondary healing, skin graft	-	46
4	55	A	-	Primary closure,	-	42
5	47	A,S	-	Primary closure, rotation flap	-	38
6	56	A	-	Primary closure	-	40
7	28	S	-	Secondary healing, skin graft	-	28
8	32	A,S	-	Primary closure, rotation flap	-	26
9	36	S,P	-	Primary closure, Secondary healing,	-	34
10	38	A	-	Primary closure	-	44
11	42	S	-	Secondary healing	-	37
12	25	A,G	-	Primary closure	-	18

He was treated with wound care. No recurrence was detected in any of the follow-up patients. Mean follow-up time was 32.5 months (Table 1).

## DISCUSSION

The prevalence of HS is between 0.05% and 4.10%.<sup>16,17</sup> It is seen rarely before puberty and older than 40 years old.<sup>14</sup> Although HS is more common in females than males, the likelihood of having abscesses is two times higher in males.<sup>17-19</sup> In our study, there were 5 patients older than 40 years old. However, these patients were younger than 40 years old when their complaints started. In this study, abscessed lesions were more common in males than in females because women had less complicated disease courses.

Although the etiology of HS has not been explained completely, it was initially thought to be primarily a disease of apocrine glands.<sup>5</sup> However, it was observed that follicular epithelium was a disease and follicular occlusion result.<sup>20,21</sup> However, it was suggested later that HS is a follicular epithelium and is caused by follicular occlusion.<sup>20,21</sup> The role of etiological factors such as perfume, deodorant, chemical and physical hair removal processes have not been proven in studies on the size and distribution rates of apocrine glands. A genetic component can also be found in etiology. A study of 110 patients reported the rate of family history as 38%.<sup>4</sup> In our study, 4 patients had family history.

HS is diagnosed with physical examination. They early present with cellulite and lately with abscessed lesions. Even if the abscessed lesions are drained spontaneously, their probability of recurrence is very high. In the

involvement area at the time of chronicity, HS is seen as nodules with superficial sinuses surrounded by fibrosis or nodules consisting fistulas. This appearance may be confused with perianal fistula, Crohn's disease, and pylonidal sinus in perianal region.<sup>13</sup>

Medical and surgical options are available for the treatment. For example, application of antiseptic solutions, local or systemic antibiotics, and even radiotherapy are possible. In recent years, studies on drugs that are effective on inflammatory mediators have been carried out.<sup>22</sup> There are studies about the positive effect of adalimumab, which is an immunomodulator drug, on medical treatment. However, the results as successful as with surgery treatments have not been obtained with medical treatment methods yet.<sup>23</sup> Surgical treatment is still the most successful method for HS treatment. Wide total excision and curettage with negative surgical margin are performed. The remaining tissue defect can be closed primary, healed secondary or closed with rotation flaps. Surgical method is selected according to the prevalence and current disease involvement.<sup>7</sup> In our study, all patients underwent radical total excision with a negative surgical margin. Only 4 patients' defects were closed primary. Other patients needed skin graft and rotation flap after their secondary recoveries.

Patients with involvement near anal canal have a high risk of fecal contamination and associated wound site infection. A protective stoma can be opened to prevent this situation. However, metabolic and psychological distress of stoma opening plays an important role in the selection of patients who need stoma opening.<sup>24,25</sup> In our study, stoma was opened in 2 of 4 patients with perianal

region involvement. Although 2 patients had wide involvement, circumferences of their anal canals were more than 180 degrees. Recurrence rates after surgery are determined between 17-67%.<sup>7</sup> The most significant reason for the high rate of recurrence is insufficient surgical excision in primary operations. In our study, recurrence was not observed among the patients. However, shorter average follow-up periods may be considered as a limitation of this result.

## CONCLUSION

HS, which is a chronic disease, leads patients to postpone their treatments due to surgery, wide resections and long recovery duration with a few surgical procedures. This situation tends these patients to the local or temporary treatment methods. However psychological and social problems associated with physical problems, which bring difficult life conditions, are actually more destructive for the patients. It should be considered that surgical treatment is not longer and more difficult than the course of the disease. Complete recovery can be achieved with recent surgical methods.

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