



Wide Excision in Hidradenitis Suppurativa, Does It Modify the Course of Disease?

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Abstract

Background: Hidradenitis suppurativa management is considered to be multidisciplinary. All the guidelines include surgery as part of the therapeutic scheme. Nevertheless, there is a lack of studies assessing whether surgery of problematic areas is useful for overall control of the disease.

Objectives: The aim of our study was to evaluate the disease course in patients with hidradenitis suppurativa who underwent wide excision of complex fistula tracts.

Methods: In a retrospective study we reviewed all patients with a diagnosis of hidradenitis suppurativa who underwent wide excision surgery between October 2018 and February 2020 at Hospital Universitario de la Princesa in Madrid. Demographic and clinical variables were collected. Fistula tracts were classified according to criteria defined by Martorell et al. The types of reconstruction and immediate complications of surgery were taken into account, as well as flares and antibiotic therapy. Disease severity was assessed by the International Hidradenitis Suppurativa Severity Score System (IHSSSS).

Results: A total of 11 patients and 13 interventions were included. Most of the patients were obese (63.7%) and smokers (81.8%).

The majority presented a moderate to severe stage (Hurley II and III). Anatomical areas treated were: Axilla (7) followed by the inguinal (3), genital (2) and gluteal regions (1). All patients had been treated with several cycles of antibiotics before surgery and three of them with adalimumab. Six type B fistulas, 6 types C and one type D were surgically intervened. After 6 months of follow-up recurrence was detected only in one case and most remained free of flares (45.4%) or suffered a single flare (27.3%). The use of antibiotic therapy was reduced significantly after surgery.

Conclusion: Wide excision of complex fistulas seems to produce an overall effect on the inflammatory activity in hidradenitis suppurativa that may be important to achieve an adequate control of the disease.

Introduction

Hidradenitis Suppurativa (HS) is a chronic inflammatory disease characterized by painful abscesses, scars and sinus tract formation. HS prevalence in Europe is high (1%), while its mean incidence is 6 per 100,000 person-years [1]. The multidisciplinary treatment of the disease includes medical therapies such as antibiotics, retinoids, anti-inflammatory drugs and biologics (anti-TNFs such as adalimumab), as well as surgical options. In this context, wide excision of chronic and scarring lesions (complex fistulas) seems to be the most effective technique, which also provides lower rate of recurrences and adequate esthetic results [1-4]. The combination of medical and surgical treatment, especially in advanced states, is accepted as the correct management to regulate HS disease activity. Moreover, when the source of inflammation is eliminated (recurrent inflammation areas), the immunomodulatory treatment could be more effective controlling the emergence of new lesions and improving already established lesions, thereby preventing further relapses [5,6]. However, there is a lack studies assessing the usefulness of wide local excision in the overall control of the disease.

Materials and Methods

We designed a retrospective study that reviewed all patients with a clinical diagnosis of hidradenitis suppurativa who underwent wide excision of complex fistula tracts between October 2018 and February 2020 at Hospital Universitario de la Princesa in Madrid. We collected demographic parameters (age, gender, body weight and smoking history) and HS history (duration of HS

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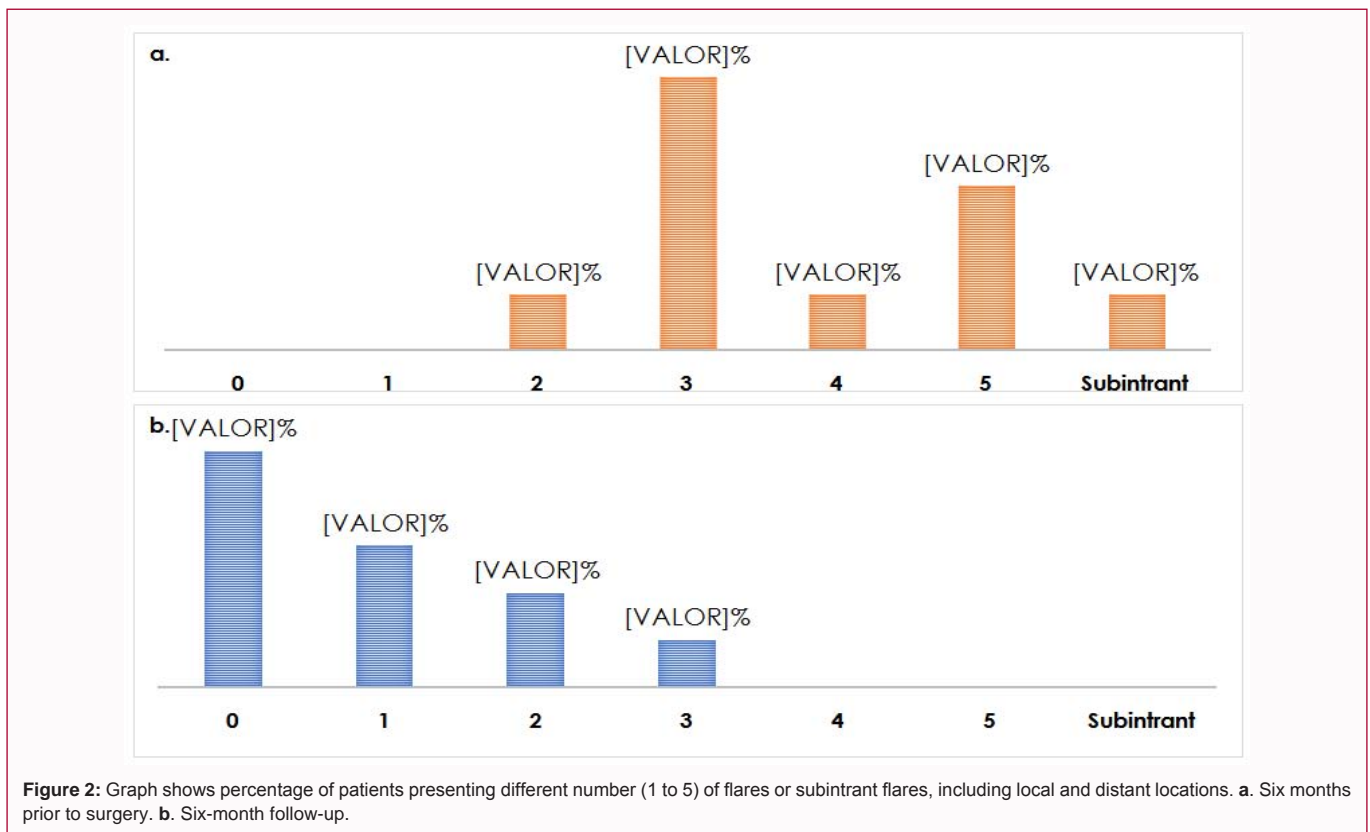
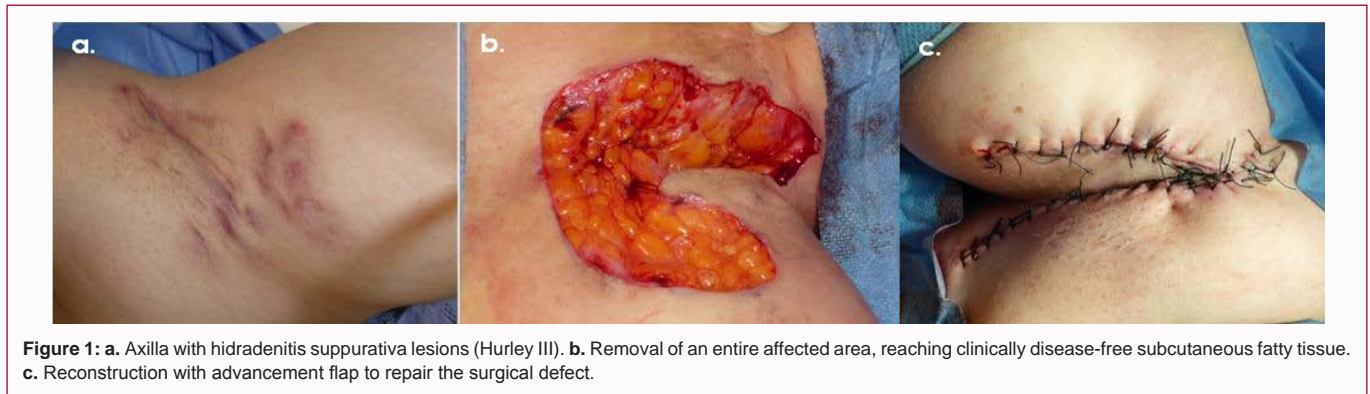
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symptoms before surgery, number of flares previous to the surgery, localization of the lesion and topical and systemic treatments). All fistula tracts were classified according to clinical and ultrasound criteria proposed by Martorell et al [3]. The surgical technique used was wide local surgical excision, which consisted in the removal of an entire affected area, reaching clinically disease-free subcutaneous fatty tissue, followed by different types of reconstruction (Figure 1). Further patient information was collected, such as immediate complications of surgery, flares before and after the intervention, location of the inflammatory lesions and treatment required for their resolution. HS severity was assessed with the International Hidradenitis Suppurativa Severity Score System (IHS4) [7], which takes into account the number of inflammatory nodules, abscesses and draining tunnels, stratifying patients into three stages (mild, moderate and severe). Data were evaluated at 6, 3 and 1 month before and after the surgical procedure. Tolerance and satisfaction after the surgical procedure were assessed 6 months after surgery.

Results

Eleven patients with HS, who accounted for a total of 13 wide excisions, were included in the study. Mean age was 44 years (30 to 58 years), 7 patients (63.6%) were women and 4 (36.4%) were men. Most of the patients were obese (63.7%) and had a positive history of smoking (81.8%). The average time between disease onset and surgery was 11.64 years (2 to 31 years). Regarding disease severity, 45.5% of patients presented Hurley stage II and 54.5% presented stage III. Most surgeries were performed in the axilla (7) followed by the inguinal (3), genital (2) and gluteal region (1). A large proportion of patients (81.8%) presented between 3 and 5 flares within 6 months before surgery and one patient (9.1%) suffered subinfrant flares before the surgical intervention (Figure 2a). Before surgery, all patients were treated with multiple cycles of antibiotic and three of them required adalimumab. Six type B fistulas, 6 types C and one type D were surgically intervened. The types of reconstruction performed were flap (6 cases), direct closure (6 cases), and in one of the cases

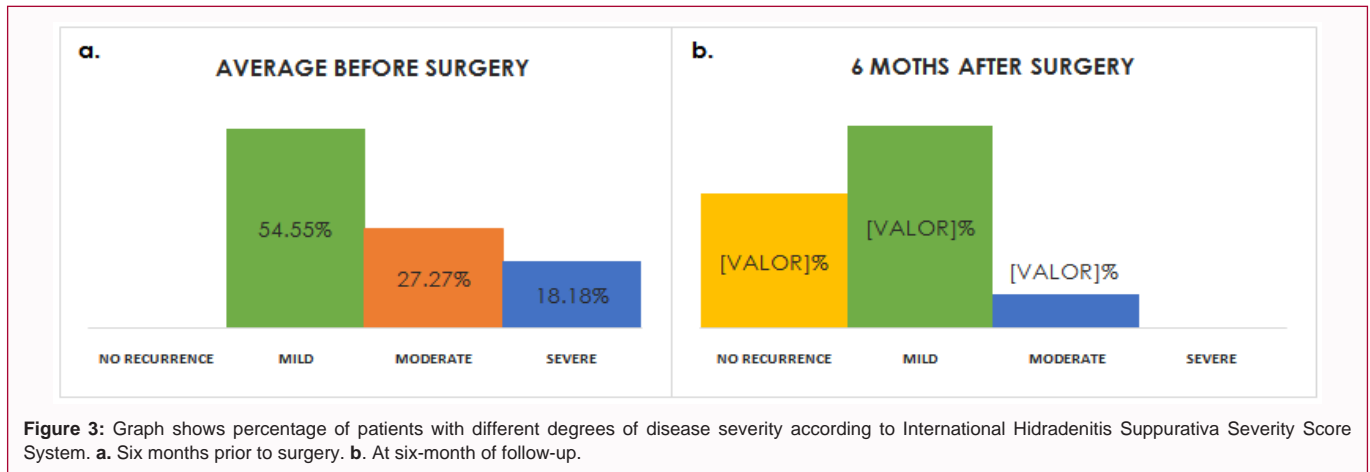


Figure 3: Graph shows percentage of patients with different degrees of disease severity according to International Hidradenitis Suppurativa Severity Score System. a. Six months prior to surgery. b. At six-month of follow-up.

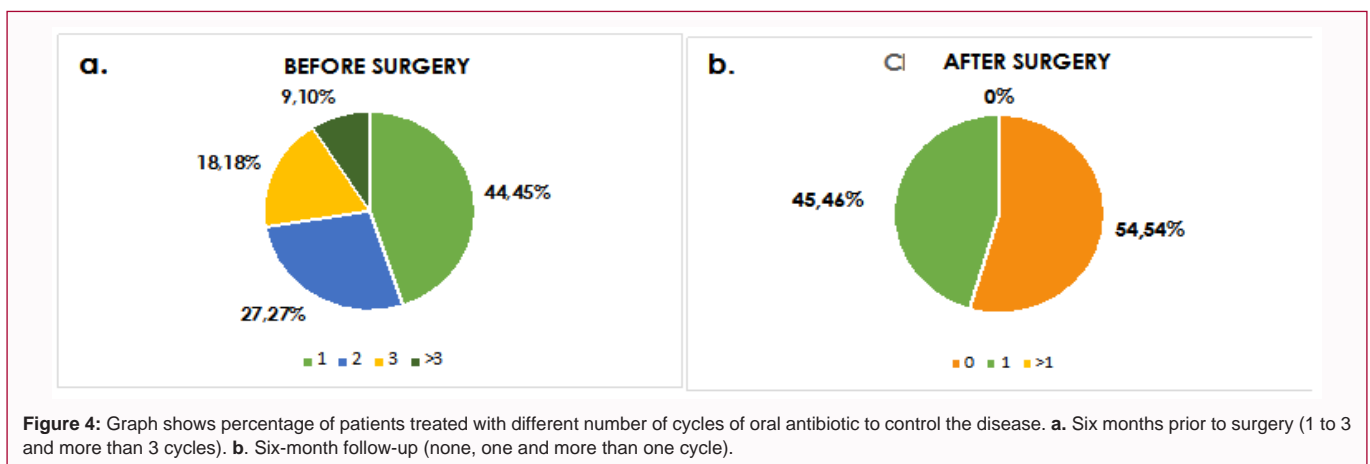


Figure 4: Graph shows percentage of patients treated with different number of cycles of oral antibiotic to control the disease. a. Six months prior to surgery (1 to 3 and more than 3 cycles). b. Six-month follow-up (none, one and more than one cycle).

the surgical defect was resolved by a graft. The incidence of surgical complications was minimal, we described one seroma and one wound infection. Only 2 out of a total of 11 patients referred moderate pain the immediate days after the intervention. During the 6-month follow-up, local recurrence could be detected only in one case, at locations previously affected by the disease, and a high number of patients remained without inflammatory activity (no flares [45.4%]) or suffered only one flare (27.3%) that resolved with hardly any complication (Figure 2b). HS severity showed a great improvement after surgery; at 6 months, 36.36% of the patients remained free of recurrence and 54.6% presented mild activity (IHS4 ≤ 3) (Figure 3).

The surgery greatly reduced the use of antibiotic therapy to control flares. During the 6-month period prior to surgery 18.18% of patients required 2 cycles and 45.45% more than 3 cycles, whereas in the 6-month follow-up only 45.45% required treatment, which consisted of only one cycle (Figure 4). After 6 months all patients were satisfied with the esthetic results and declared that they would undergo the same surgical procedure again if necessary.

Discussion

Fistulous tracts are considered as one of the most important signs of severity in HS because of their capability of generating irreversible structures that require surgical management [2]. Martorell et al. has proposed a classification of HS fistulas according to clinical and sonographic criteria. Within this classification types B, C and D represent advanced stages, in which antibiotic and

immunomodulatory therapy are insufficient and surgical excision of the scarring lesions represents the key to control disease activity [3]. Previous evidence in the literature about the use of wide local excision in HS has mainly focused on local recurrence [1]. The idea that wide excision of chronic and irreversible fistulas may improve the overall activity and course of the disease, reducing flares in the intervention area and other anatomical sites has remained unexplored. Nowadays, wide excision is accepted as an adequate surgical choice, with a lower local recurrence rate (13% to 33%), depending on follow-up period, site affected or closure methods (secondary wound healing, primary closure, skin flaps or grafts) [8-10]. In our case, the recurrence rate in the operated area after wide excision of complex fistulas was 9.1%, although follow-up was short (6 months).

Few authors have reported distant recurrence (flares in anatomical areas different from those that underwent surgery), Walters et al. made distinction between local (operative field) [29.2%] and distant recurrences [8.3%], emphasizing on quality and severity of them [11]. To further characterize the outcome of wide local excision in HS, we analyzed disease flares (both at the operated anatomical region and at distant areas) within 6 months prior to surgery and throughout a 6-month follow-up. Our results showed an important decrease in the inflammatory activity after the operation (flares were reduced by 77.8%), almost all the relapses occurred outside the operated area, and they were less pronounced and resolved easily without the need to modify the basal treatment or with a short cycle of antibiotics. Similarly, disease severity was greatly reduced after surgery; six

months after surgery most of the patients did not develop new symptoms [IHS4=0] or maintained mild activity [IHS4 ≤ 3]. As a consequence of reduction in flares, the use of antibiotics through follow-up was lower than that of the six months prior to surgery.

In addition, two out of three patients who were treated with adalimumab maintained the treatment after surgery with an excellent course of the disease (no flares or minimal symptoms that did not require additional treatment). These results suggest that possible combinations of immunomodulatory drugs and surgery may be potentially useful to achieve complete remission. The study has some limitations. Firstly, the sample size is small and the follow-up is relatively short. Secondly, although HS has an important impact on patient's life, we did not use questionnaires to assess changes in quality of life, impairment of daily activities and sexual health after the surgery [12-15]. Nevertheless, all our patients were satisfied with the outcome of the surgery and claimed that they would undergo the same surgical procedure again if they presented similar lesions to those previously operated.

Conclusion

Results from our series suggest that wide excision of complex fistulas (type B, C and D) improve HS control, reducing the number of flares at the surgical site and at distant locations, and consequently the use of oral and topical antibiotics. This procedure presents low recurrence and provides high patient satisfaction with the surgery and the esthetic results. These results warrant further validation studies with larger cohorts and longer follow-up.

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