

DEROOFING - A METHOD OF CHOICE IN THE TREATMENT OF SUPPURATIVE PERINEAL HIDRADENITIS

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ABSTRACT

PURPOSE: Suppurative hidradenitis is a chronic relapsing inflammatory disease that affects the apocrine sweat glands. Therefore, it is most often located in the axilla, groin and perianal area. Usually, people of working age affected. Perineal and perianal locations cover about 37% of the total morbidity rate and are more common in males. The objective of this study was to share our experience with the application of deroofing for the treatment of purulent perineal hidradenitis.

MATERIAL AND METHODS: This prospective interventional study covered 13 patients with suppurative fistulasing hidradenitis of perineum treated in Division of Coloproctology and Septic Surgery, Georgi Stranski University Hospital of Pleven for the period from 2008 till 2013.

RESULTS: The interval between the occurrence of disease and its surgical treatment was very long - from two to 36 years (average of 9,2 years). It resulted from the progression of the disease with enlarged soft tissue involvement. Sometimes, the disease was complicated by chroniosepsis. The average hospital stay was 13,5-day long. Operative wounds healed secondarily at an average of about 30 days. The patients were followed-up for six months, one year and two years. Two patients with relapses on the sixth postoperative month were hospitalized again. The surgical intervention warranted good results.

CONCLUSION: Treatment of suppurative hidradenitis of the perineum is complex, both in terms of local status and systematic violations resulting in chronic infection. There are numerous surgical techniques for treating this pathology. The advantages of deroofing are the following: minimal trauma to the patient, application by using local anesthesia at the early stage in order to minimize hospital stay, no need of special equipment, a lower recurrence rate than the other methods and formation of aesthetically acceptable scar.

Key words: *perineal suppurative hidradenitis, surgical methods, deroofing, bacterial flora, following-up*

INTRODUCTION

Suppurative hidradenitis is a chronic relapsing inflammatory disease that affects the apocrine sweat glands. Therefore, it is most often located in the axilla, groin and perianal area. This pathology, known as acne inversa, was first described in 1839 by

Velpeau (cited after 3,4). Later on, Verneuil associated the abscesses with the sweat glands (7-cited after 3). Harrison (1963) proposed the term of apocrititis because of the anatomical substrate of the disease (cited after 3). Usually, people of working age affected. Perineal and perianal locations cover about 37% of the total morbidity rate and are more common in males (4,6,8). The etiology of purulent hidradenitis is not completely understood yet. Multiple factors such as hormonal disbalance with predominance of androgenic hormones, oily skin, acne vulgaris, obesity, tobacco smoking, diabetes mellitus, chronic mechanical damage are considered contributing

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agents in recent years. The genetic predisposition (HLA-A19) matters, too (6).

The pathogenesis is realized in the following steps: hyperkeratinization blocks the duct of apocrine sweat glands, which in turn causes retention of secretions, fistulization and secondary bacterial infection of the soft tissues in the affected areas. This leads to the formation of subcutaneous abscesses, which may spontaneously drain or fuse with others thus forming massive hypertrophic scars (1,5).

Severity of purulent hidradenitis is assessed by three-stage scale of Hurley:

I. Solitary or multiple isolated abscess formation without scarring or sinus tracts

II. Recurrent abscesses, 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.

The objective of this study was to share our experience with the application of deroofing for the treatment of purulent perineal hidradenitis.

MATERIAL AND METHODS

This prospective interventional study covered 13 patients with suppurative fistulizing hidradenitis of perineum treated in Division of Coloproctology and Septic Surgery, Georgi Stranski University Hospital of Pleven for the period from 2008 till 2013. All the patients were males. During the same period, 198 patients with anorectal fistula and 79 patients with fistulizing pilonidal sinuses were admitted to the First Clinic of Surgery. The patients with chronic fistulizing hidradenitis had previously undergone surgery due to fistulizing pilonidal sinuses and anorectal fistula in other clinics without histological confirmation of diagnosis.

The diagnosis of 'chronic fistulizing hidradenitis of perineum and gluteal area' was based on the following examinations:

1. Clinical features
2. CT
3. Transanal ultrasound
4. Intraoperative application of methylenblau
5. Histological examination.

The follow surgical techniques were applied:

1. Wide excision of affected areas and secondary healing or plastic closure in case of small lesions as recommended by other authors (4);
2. Deroofing - in extensive tissue involvement, and
3. Combination of the both methods.

Deroofing represents a method first described by Mullins (1959). The openings of fistula are explored by a probe penetrating all the branches of the fistula with subsequent snip or overlying skin excision. Curettage is performed on 'the floor' of the defect and surgical wound is left to heal secondarily.

RESULTS

In Table 1, patient's age, disease duration, number of fistula openings, number of performed surgical interventions, hospital stay duration and outcomes of the disease are shown.

The proper operative technique applied by us was chosen according to local status. We thoroughly checked the openings of fistula and tracked all the branches of fistula with flexible probe. Where there were multiple communicating fistula openings, we undertook a wide excision of the lesion of subderma and derma to the underlying fascia. In single fistula openings, we excised a band of overlaying tissue with subsequent curettage of granulation and epithelial tissues. In short and superficial fistula openings, we used incision with curettage. In two patients, we committed instantaneous skin flap plasty partially covering the tissue defects, however, without success. Local wounds were treated in the postoperative period with bath seats and dressings with solutions of betadine and chlorhexidine gluconate. The histological results of submitted materials were like the following: 'Areas of acute and chronic inflammatory changes in derma and subderma with predominating fibrosis and cystic structures covered with multilayer flat epithelium...'

The average hospital stay was 13,5-day long. Operative wounds healed secondarily at an average of about 30 days. Patients were followed-up for six months, one year and two years. Two patients with relapses on the sixth postoperative month were hospitalized again. The surgical intervention warranted good results.

Table 1. Characteristics of the patients with perineal suppurative hidradenitis

Patient's age	Duration	Fistula openings	Performed surgery	Hospital stay	Control examination after 6 months
38	8	5	1	12 days	recovered
34	6	7	1	14 days	recovered
24	4	5	1	9 days	recovered
22	2	4	1	10 days	recovered
54	36	73	5	64 days	recovered
36	4	6	2	10 days	recovered
58	8	6	1	8 days	recovered
62	18	17	3	12 days	relapse
49	5	8	2	8 days	recovered
50	7	6	1	6 days	recovered
51	8	12	3	10 days	relapse
36	5	8	1	5 days	recovered
54	7	11	2	8 days	recovered

The isolated bacterial flora was shown in Table 2. It is represented by a total of 17 strains of bacteria belonging to six types. Gram-negative bacteria accounted for 17,64% of all the isolates. Gram-positive bacteria were established in 64,70% of the isolates while anaerobes were isolated in 17,64% of the cases.

Table 2. Bacterial flora isolated from the patients with perineal suppurative hidradenitis

Microbial species	n	%
Gram-negative bacteria	3	17,64
Escherichia coli	2	11,76
Proteus mirabilis	1	5,88
Gram-positive bacteria	11	64,70
Staphylococcus aureus	5	29,41
Staphylococcus epidermidis	2	11,76
Streptococcus pneumoniae	4	23,52
Anaerobic bacteria	3	17,64
Peptostreptococcus	3	17,64

The interval between the occurrence of disease and its surgical treatment was very long - from two to 36 years (average of 9,2 years). It resulted from the progression of the disease with enlarged soft tissue involvement. Sometimes, the disease was complicated by chroniosepsis.

DISCUSSION

There are numerous surgical techniques for the treatment of purulent hidradenitis. The simplest method is local incision and drainage. Its technical performance is easy, however, it is associated with a high recurrence rate reaching up to 100%, according to some authors (5). Other surgical techniques include local excision and the defect can be closed primarily and heal secondarily or after skin plastic. Overall treatment of hidradenitis in perianal and perineal area is difficult due to the specific location. The use of skin grafts often leads to a more considerable discomfort than the disease itself (2). Relapse rate after limited excision is 47% and after radical one - 27% (5,6). Radical operations are associated with more severe surgery and with higher costs both for the patient and for the public health system. In very severe cases, a colostomy in order to divert the passage has been proposed as treatment option. The advantages of deroofting are the following: minimal trauma to the patient, application by using local anesthesia at the early stage in order to minimize hospital stay, no need of special equipment, a lower recurrence rate (of 15,38% in our material) than the other methods and formation of aesthetically acceptable scar (5). The analysis of the literature available and our own results allow us to recommend deroofting



Fig. 1. Patient with chronic fistulasing hidradenitis of 36-year duration

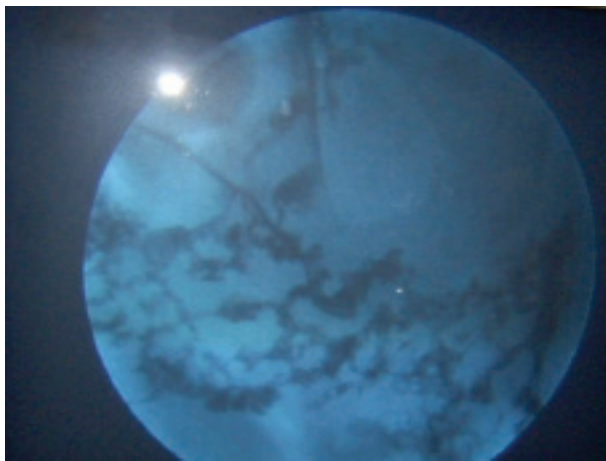


Fig. 2. Contrast fistulography of the same patient



Fig. 3. A wide excision of damaged skin to underlying tissues combined with sparing excision of the upper part of all the fistula openings and curettage of granulation tissue

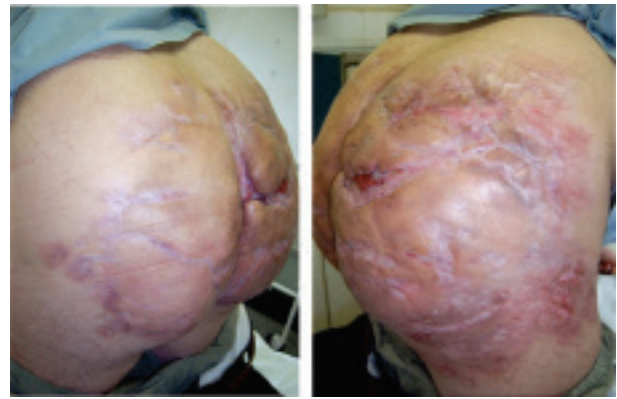


Fig. 4. The same patient three months later on

as a surgical method of choice for treatment of hidradenitis of second and third degree of Hurley.

In most cases, the disease is not early recognized and treated as fistulasing pilonidal cyst or anorectal fistula. This leads to inadequate treatment and disease progression. Treatment of suppurative hidradenitis of the perineum is complex, both in terms of local status and systematic violations resulting in chronic infection.

CONCLUSION

1. Chronic fistulasing hidradenitis of the perineum and gluteal region is a rare entity. Our clinical material represents 4,48% of all the cases with chronic suppurative fistulasing diseases of the perineal region during this period.
2. Good results are achieved by combination of a wide excision of damaged skin to underlying tissue and a sparing excision of the upper part of all the openings of fistula and curettage of granulation tissues according to local status.
3. Poor results are obtained after one-stage operation when combining the wide excision with a skin flap rotation in patients with chronic bacterial infection.
4. Analysis of isolated bacterial flora enables us to empirically recommend the group of Lincosamides as antibiotics of choice.

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