

DEROOFING – A METHOD OF CHOICE IN THE TREATMENT OF SUPPURATIVE HIDRADENITIS OF PERINEUM

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Abstract

Keywords:

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Aim: Suppurative hidradenitis is a chronic relapsing inflammatory disease that affects the apocrine sweat glands, and is most often located in the perianal area. Perineal and perianal locations cover about 37% of the total morbidity and it is more common in males.

Materials and Methods: A prospective interventional study of 13 patients with suppurative fistulizing hidradenitis of perineum, treated in the Department of Coloproctological and purulent-septic surgery, University Hospital, Pleven for the period 2008 - 2013.

Results: The period between the occurrences of disease and surgical treatment is very long – from 2 to 36 years (average - 9.2 years). The average hospital stay was 13.5 days. Operative wounds healed secondarily an average of about 30 days. Patients were followed for 6 months, 1 year and 2 years. Two patients with relapses on the 6th postoperative month, have re-hospitalization and surgery with good results.

Conclusion: Treatment of suppurative hidradenitis of the perineum is complex, both in terms of local status and systematic violations resulting chronic infection. The advantages of deroofing are: minimal trauma to the patient, requires no special equipment, there is a lower rate of recurrence compared with other methods (in our study - 15.38%) and leads to the formation of aesthetically acceptable scar.

Introduction

Suppurative hidradenitis is a chronic relapsing inflammatory disease that affects the apocrine sweat glands, and therefore is most often located in areas of the axilla, groin, and perianal area. The condition, known as acne inverse, was first described in 1839 by Velpeau. [1,8] Later Verneuil associated abscesses with the sweat glands [7,8]. Harrison (1963) proposed the term apocrinitis, because of the anatomical substrate of the disease. [8] Usually affects people of working age. Perineal and perianal locations cover about 37% of the total morbidity and it is more common in males. [1,4,6] The etiology of purulent hidradenitis is not still totally understood. Multiple factors like hormonal disbalance with predominance of androgenic hormones, oily skin, acne, obesity, smoking, diabetes, chronic mechanical damage, are accepted as contributing in recent years. The genetic predisposition (HLA-A19) also matters. [6].

Pathogenesis is considered to follow those steps: hyperkeratinization leads to blockage of the duct of apocrine sweat glands, which in turn leads to the retention of secretions, fistulization and secondary bacterial infection of soft tissues in the affected areas. This leads to the formation of subcutaneous abscesses, which may spontaneously drain or to fuse with others, forming massive hypertrophic scars. [2, 3]

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

1. Solitary or multiple isolated abscess formation without scarring or sinus tracts.
2. Recurrent abscesses, single or multiple, widely separated lesions, with sinus tract formation.

3. Diffuse or broad involvement across a regional area with multiple interconnected sinus tracts and abscesses.

Materials and methods

A prospective interventional study of 13 patients with suppurative fistulizing hidradenitis of perineum, treated in the Department of Coloproctological and Purulent-septic Surgery, University Hospital, Pleven for the period 2008 - 2013.

All the patients were males. For the same period in the department were admitted 198 patients with anorectal fistula and 79 patients with fistulizing pilonidal sinuses. The patients with chronic fistulizing hidradenitis had prior surgery due to fistulizing pilonidal sinuses and anorectal fistula in other clinics without histological confirmation of diagnosis.

The diagnosis "chronic fistulizing hidradenitis of perineum and gluteal area" is based on:

1. Clinical features
2. Computed tomography
3. Transanal ultrasound
4. Intraoperative application of Metilenblau
5. Histological examination.

The follow surgical techniques are applied in our study:

1. In case of small lesions: wide excision of affected areas and secondary healing or plastic closure, recommended by Thornton and Abcarian
2. In extensive involvement- deroofting.
3. Combination of the both methods.

The Deroofing is a method, first described by Mullins (1959). The openings of fistula are explored by a probe, penetrating all 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 and discussion

In the table 1 the patient's age, duration of the disease, the number of fistula openings, the number of performed surgery, hospital stay and the outcome of the disease are shown.

Table 1. A table, showing the age, durations, number of fistula openings and hospital stay of the patients.

age	duration	Number of fistula openings	Number of performed surgery	Hospital stay	Check examination after 6m.
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 proper operative technique that we applied, was chosen according to local status. We thoroughly checked the openings of fistula and we are tracking all of the branches of fistula with flexible probe. Where there are multiple communicating fistula openings we have undertaken a wide excision of the lesion of subdermal and derma to the underlying fascia. In single fistula openings, we excised a band of overlying tissue with subsequent curettage of granulation and epithelial tissue. In short and superficial fistula openings we have used incision with curettage. In two patients we have committed instantaneous skin flap plasty partially covering tissue defects - 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 are:

“...Areas of acute and chronic inflammatory changes in derma and sub-derma with predominate fibrosis and cystic structures, covered with multilayer flat epithelium...”

The average hospital stay was 13.5 days. Operative wounds healed secondarily an average of about 30 days. Patients were followed for 6 months, 1 year and 2 years. Two patients with relapses on the 6th postoperative month, have re-hospitalization and surgery with good results.

Table 2. The isolated bacterial flora.

Microbial species	number	%
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 isolated bacterial flora is represented by a total of 17 strains of bacteria and belongs to 6 types. Gram-negative bacteria account for 17.64% of all isolates. Gram-positive bacteria, are 64.70% of all isolates and anaerobes were isolated in 17.64%.



Figure 1: A patient with chronic fistulizing hidradenitis with 36 years duration.



Figure 2: Contrast fistulography of the same patient.



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



Figure 4: The same patient 3 months later.

The period between the occurrence of disease and surgical treatment is very long – from 2 to 36 years (average - 9.2 years). It is a result from progression of the disease with enlarge involvement of the soft tissues. Sometimes the disease is complicated with chronic sepsis. In most cases, the disease is not early recognized and treated as

fistulising pilonidal cyst or anorectal fistula. That 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 chronic infection. There are numerous surgical techniques for treating of purulent hidradenitis. The simplest method is local incision and drainage. This method is easy as technical performance, but it is associated with a high incidence of recurrence, according to some authors to 100%. [3] Other surgical techniques include local excision and defect can be closed primarily, to 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 big discomfort than the disease suffering. [5] For limited excision relapse rate was 47% for the radical - 27%. [3, 6] Radical operations are associated with more severe surgery and with higher costs both for the patient and for the medical care system. A colostomy, to divert the passage is proposed treatment in very severe cases. The advantages of deroofting are: minimal trauma to the patient, with early forms, can be applied using local anesthesia to minimize hospital stay, requires no special equipment, according to various studies, there is a lower rate of recurrence compared with other methods (in our study - 15.38%), leads to the formation of aesthetically acceptable scar. [3] The data analysis from the literature and our results allow us to recommend deroofting as a surgical method of choice for treatment of hidradenitis second and third degree of Hurley.

Conclusion

Chronic fistulizing hidradenitis of the perineum and gluteal region is a rare disease. Our clinical material represents 4.48% of all chronic suppurative fistulizing diseases of the perineal region, treated at the clinic for the period.

1. 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 openings of fistula and curettage of granulation tissues according to local status.
2. Poor results are shown in one stage operation, combining a wide excision with a skin flap rotation in a chronic bacterial infection.
3. Analysis of isolated bacterial flora enables us to recommend empirical antibiotics of choice - the group of Lincosamides.

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