

HIDRADENITIS SUPPURATIVA OF THE PERINEUM, SCROTUM, AND GLUTEAL AREA: PRESENTATION, COMPLICATIONS, AND TREATMENT

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Hidradenitis suppurativa is an infrequent inflammatory process that begins as an infection in the apocrine sweat glands. From an initial focus, the infection spreads to involve other tissues of the skin and adjacent structures. When inadequately treated or neglected, the disease becomes chronic with suppuration, sinus formation, invasion of adjacent organs, and occasional malignant degeneration. Social and occupational dislocations are the rule. The peak incidence of the disease is in the third and fourth decades. Blacks and women are most often affected.

Our clinical experience with hidradenitis of the scrotum, perineum, and gluteal area is presented. One patient had an associated adenocarcinoma and another had osteomyelitis. All but one had neglected the disease. Emphasis is placed on early and appropriately wide excisional therapy for the disease in all its manifestations. Incision and drainage and antibiotics are of limited value and are best used as preliminaries to definitive excisional therapy.

Hidradenitis suppurativa is still a poorly recognized and inadequately treated disease. It is the purpose of this paper to report our experience with this problem.

The disease is a chronic suppurative process of the skin that develops from an infection in the

apocrine sweat glands. The apocrine glands, and consequently the disease, are found in the skin of the axilla, breast, anus, pubis, scrotum, umbilicus, and perineum. The disease often starts as a localized area of inflammation. It is often pruritic, painful, and associated with abscess formation. In the early stages, the disease may be misdiagnosed and treated by any combination of antibiotics (topical and systemic), topical steroids, and incision and drainage. It may respond to such therapy but often incompletely, with multiple remissions and exacerbations.

With chronicity, progressively wider areas of the adjacent skin and tissues become involved. At this stage, abscess formation and multiple cutaneous sinuses discharging pus become prominent manifestations. Over several years, malignant changes—usually squamous cell carcinoma—may develop.¹ The average patient will have tried many doctors and, in the Jamaican situation, many spiritualists.

The economic drain on the patient is severe, and he or she often faces rejection by employer, family, and friends. The physician may also have given up. Adults in the third and fourth decades are most frequently affected²; women and blacks seem to be more affected than men and whites, respectively. *Staphylococcus aureus* and *Streptococcus viridans* were at one time the organisms most often cultured, but gram-negative organisms and micrococci are now reported to predominate.³

The etiology of the disease is uncertain, but it is felt that poor personal hygiene, irritation from clothing, use of antiperspirants and depilatories, close shaving, and plucking of axillary hair may be contributory factors. When the disease is diag-

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nosed, only appropriate excisional therapy can be relied on to give a cure.

Should a patient have a focal infection in an area of the skin known to bear apocrine glands and, especially, a history of recurrence after incision and drainage, that patient should be treated with excision of the affected area and primary or delayed primary closure of the defect. Late treatment of the disease will require more extensive excision to include all the involved skin and underlying tissue. While the disease is most often limited by the deep fascia, it may extend to muscle and bone. The large defect created may be closed by various methods. In our series, split-thickness skin grafts were used when simple closure was not possible.

MATERIALS AND METHODS

Six patients with hidradenitis suppurativa were treated and followed up from one to seven years. One patient had early disease of the gluteal area and was treated by simple excision of the affected area and primary wound closure by suture apposition of the wound edges.

The five other patients had extensive, neglected disease of the perineum and perianal and gluteal areas; one had osteomyelitis of the sacrum as a direct extension of the disease, and another had an associated adenocarcinoma. The proximity of the neoplasm to the anus, in an area of increased mobility, required several technical considerations to assure a satisfactory result. Important aspects of the preoperative, intraoperative, and postoperative management utilized in these are listed below:

1. To delay defecation for the first four to five days following grafting, prior to which time it was undesirable to disturb the dressing, the patient was placed on a mechanical bowel preparation and a liquid diet for three days preoperatively. The liquid diet was continued for four days postoperatively.

2. If there were large abscesses present, they were incised and drained and definitive surgery was delayed for one to two weeks.

3. Prophylactic antibiotics effective against the cultured organisms were started one day prior to surgery and continued for two days afterward. At operation the pathologic tissue was excised as completely as possible, without consideration of width and depth.

In most cases, the disease was confined to skin and subcutaneous fat, and a satisfactory result was obtained from primary closure with a split-thickness skin graft. The graft was secured by suture to the remaining anal skin and perforated at regular intervals to prevent subgraft collections. Where it was considered unwise to close the wound primarily, dressings were applied and the patient was brought back at a later date for grafting. It was convenient for the graft donor site to be on the same side as the wound. Skin was taken from the patient's back in all our cases. The patients were nursed in the prone position with an indwelling urethral catheter for the first four to five postoperative days.

Codeine-containing analgesics were preferred when needed because of their added constipating effect. Dressings were fashioned in the following manner: One layer of gauze and petrolatum was applied to the grafted wound, followed by several layers of absorbent gauze. The dressing was held in place by crisscross sutures passed over the dressing and through normal peripheral skin. A layer of adhesive tape was then applied. At five days, graft take was usually adequate to allow ambulation and toilet activities.

CASE REPORTS

Case 1

A 28-year-old black man developed a "pimple" in the gluteal area 6 years before he was seen. His disease, however, became active only two years before presentation. He had been treated by incision and drainage on two occasions. He had also been on antibiotic therapy for 4 months prior to referral. His disease was confined to an area of about 4 cm² over the right buttock (Figure 1). Wide excision of the diseased tissue and primary closure of the defect were effected. The histologic study of the submitted specimen gave results consistent with hidradenitis suppurativa. Healing was uncomplicated, and there has been no recurrence.

Case 2

A 49-year-old black, divorced, and unemployed man had had recurrent perineal, gluteal, and sacral suppuration for over 20 years. The disease started as a perineal pimple which progressed to suppuration requiring numerous attempts at incision and



Figure 1. Area of recurrent suppuration over the right buttock

drainage and prolonged antibiotic therapy. The patient had had a colostomy performed two years before presentation in the hope that fecal diversion would be of benefit. This, perhaps predictably, had no effect on the progress of the disease.

The colostomy was closed after a barium enema demonstrated no fistulous communication. Two months later, the extensive area of pathologic tissue was excised under general anesthesia. The operative findings included direct extension of the infection to involve the sacrum. The grossly affected bone was curetted and removed. Several fistulous tracts extended below the gluteal muscle. These were excised. Primary wound closure was effected with a 0.013-in split-thickness autograft taken from the patient's back.

Healing was satisfactory but incomplete, as there continued to be intermittent discharge from the skin over the area of sacral osteomyelitis. Seven years after the procedure, the patient was almost free of pus but was still unemployed and a recluse.



Figure 2. Patient 3, 12 days after wide excision of perianal and gluteal suppuration and 7 days after delayed primary skin grafting, showing the area of involvement, the satisfactory take of the graft and the healing of the conveniently located donor site on the back

Case 3

A 25-year-old, black, unemployed, and socially isolated man had a 5-year history of perineal and gluteal suppuration. He had been treated by several doctors with multiple incisions and drainages and prolonged antibiotic therapy. He attended the surgical outpatients' dressing clinic for two years before definitive therapy was effected. At surgery, an extensive area of skin and subcutaneous fat was involved. This was widely excised, but because hemostasis was unsatisfactory, delayed primary closure was effected five days later with a 0.013-in split-thickness graft taken from the skin of the patient's back. Wound healing was prompt and complete in 3 weeks (Figure 2). When last seen (two years after the operation), he was free of disease, employed, and socially integrated.

Case 4

A 49-year-old, unemployed, divorced, black man had perineal, gluteal, and scrotal disease. Prolonged antibiotic therapy, multiple incisions and drainages, and numerous hospitalizations had not altered the disease process over a 10-year period. The diseased tissue was excised, and a 0.013-in split-thickness graft from his back was used to

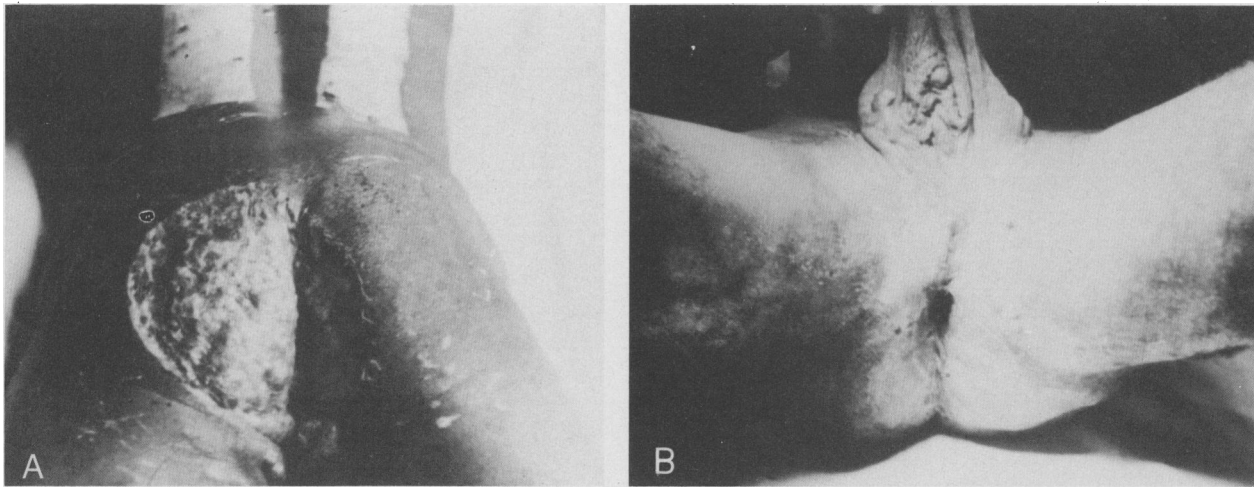


Figure 3. (A) Patient 4, showing satisfactory graft take on the fifth postoperative day. (B) The same patient 3 months later, showing completely healed and disease-free perianal and gluteal skin and an additional area of hidradenitis suppurativa deforming the scrotal skin

cover the wound. The graft took well (Figure 3). The patient was discharged and readmitted three months later for treatment of the scrotal disease (Figure 3). The scrotal wound was closed primarily by simple suturing. After a year and a half, the patient was employed and free of disease.

Case 5

A 44-year-old divorced, white embassy official had a history of perineal, gluteal, and sacral suppuration for 25 years. He had been treated with antibiotics and incision and drainage on several occasions in both North and South America and had had a total of six hospitalizations. He was referred to us by a dermatologist for incision and drainage of an intercurrent gluteal abscess. The abscess was drained, and one month later he underwent radical excision of the involved area with primary closure using a split skin graft taken from his back. Two years following therapy he was disease-free and still effusive with compliments.

Case 6

A 59-year-old black, nutritionally depleted, unemployed but married man was referred to the surgical service, after having been hospitalized for gluteal and perineal suppuration for 11 months, because an area of "granulation tissue" had failed to respond to treatment. He gave a poor history but admitted to purulent soiling of his underwear for 3 years prior to being seen.

On admission he was found to have extensive perianal disease extending to the gluteal skin, with several sinus tracts on either side of the anus. There was also a large tumor mass in the midst of the gluteal disease (Figure 4). Incisional biopsy of the tumor showed a mucin-secreting adenocarcinoma. Anoproctosigmoidoscopy and barium studies failed to identify a primary pathologic condition of the bowel.

The patient underwent radical excision of the diseased skin with removal of the anus just below the levator ani. Much of the right gluteus maximus muscle had to be excised to achieve a satisfactory tumor margin. Primary closure by split-thickness grafting failed completely. A second attempt three weeks later also was unsuccessful. Graft failure was attributed to lack of patient cooperation in maintaining the necessary immobility. He was discharged with advice on nutrition and wound care, and after three months the wound had healed completely by contraction and epithelialization. Two years postoperatively, the patient was free of disease, had gained weight, and was continent of stool although he had occasional mucous soiling of his underwear caused by intermittent rectal mucosal prolapse.

DISCUSSION

The six cases of hidradenitis suppurativa presented above demonstrate several facets of this

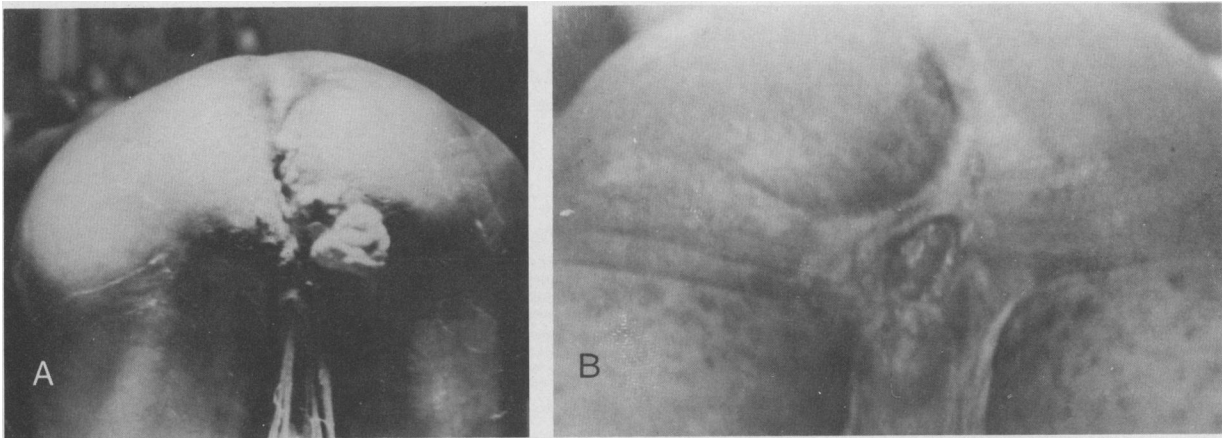


Figure 4. (A) Patient 6 showing hidradenitis suppurativa involving the perianal and gluteal skin with a large tumor arising from the middle of the right gluteal involvement. (B) Patient 2 years after radical bloc excision of perianal skin, gluteal skin and muscle, and anus below the levator ani. The wide defect healed by contraction and epithelialization after two unsuccessful attempts at skin grafting

relatively uncommon disease as well as important therapeutic implications. The disease is still misdiagnosed and consequently treated inadequately. None of our patients had a correct diagnosis on referral, and all but one—with early disease over the gluteal skin—had had inadequate treatment for many years. Early disease is simply treated by excision of the involved tissue and simple wound closure, as in case 1. Prompt excisional therapy should be effected for recurrent suppuration in areas of skin known to have apocrine glands.

Neglected disease or inadequately treated disease often had disastrous social, economic, and biologic implications. In all our cases, the disease began between 20 and 30 years of age. Of the five neglected cases all but one were rendered unemployed, economically destitute, and either divorced or recluse. One patient had the complication of osteomyelitis and another had the most uncommon association of an adenocarcinoma. Squamous cell carcinoma is the common histological cancer associated with long-neglected disease.¹

Even in late cases, appropriate excisional therapy offers the best hope for a cure. None of the five neglected cases have any recurrent disease following excisional therapy, except for one patient who has an occasional discharge over an area of sacral osteomyelitis. Repeated incisions and drainages and prolonged antibiotic therapy are totally inadequate for definitive management. These modalities of therapy are best used as preliminaries to excisional therapy. The large defects

created may be closed satisfactorily by primary or delayed primary split-thickness skin grafting. Our technique worked well as described in four of the five cases in which grafts were used. The one patient whose graft failed after two attempts healed adequately by contraction and epithelialization.

Hartwell has described the use of staples to hold his grafts peripherally with multiple central sutures² while Morgan et al⁴ used silastic foam to cover the defects while healing occurred. We have no experience with these techniques but found our methods of closure adequate. Five of the six patients in our series were black, but contrary to the general experience,³ all were men. The finding of an adenocarcinoma associated with apocrine disease is an unusual one; however, mucinous adenocarcinoma of the skin has been reported.⁵ The failure of a primary bowel lesion to manifest itself for over two years suggests that this lesion was indeed primary to the diseased skin.

Literature Cited

1. Humphrey LJ, Playforth H, Leavell UW Jr. Squamous cell carcinoma arising in hidradenitis suppurativum. *Arch Dermatol* 1969; 100(June):59-62.
2. Hartwell SW Jr. Surgical treatment of hidradenitis suppurativa. *Surg Clin North Am* 1975; 55(October):1107-1109.
3. Anderson DK, Perry AW. Axillary hidradenitis. *Arch Surg* 1975; 110(January):69-72.
4. Morgan WP, Harding KG, Richardson G, et al. The use of silastic foam dressing in the treatment of advanced hidradenitis suppurativa. *Br J Surg* 1980; 67(April):277-280.
5. Lund HZ. Atlas of tumor pathology: Tumors of the skin. Washington, DC, Armed Forces Institute of Pathology, 1957, Section 1, Fascicle 2, p 120.