Axillary Fox-Fordyce Disease Treated With Liposuction-Assisted Curettage

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The Cutting Edge: Challenges in Medical and Surgical Therapeutics

REPORT OF A CASE

A 33-year-old African American woman presented with a long history of extremely pruritic, burning lesions in the axillae, on the breasts, and in the inguinal area. The eruption first began at age 15 years, with flares following pregnancy.

On physical examination, the patient was noted to have numerous discrete, skin-colored papules in the axillae, around the areolae, and in the inguinal area (Figure 1). Biopsy results of one of these lesions were consistent with a diagnosis of Fox-Fordyce disease or apocrine miliaria.

Treatment with oral contraceptives was started with minimal improvement. Oral antihistamines were ineffective in controlling the pruritus. Topical 0.025% tretinoin cream and clindamycin in propylene glycol solution, each used separately, did not improve her symptoms and were discontinued due to irritation. Topical corticosteroids helped to relieve the pruritus and the burning sensation.

THERAPEUTIC CHALLENGE

Treatment of Fox-Fordyce disease is aimed at symptomatic relief and, as in this patient, can be disappointing. Oral contraceptives, oral antihistamines, topical tretinoin, and topical clindamycin were ineffective in controlling the pruritus and decreasing the size and number of lesions in our patient. Although topical corticosteroids helped to relieve the itch, prolonged continuous use of corticosteroids in skin folds or occluded sites carries a high risk of corticosteroid side effects. Surgical removal of the apocrine glands in recalcitrant cases has been reported to relieve symptoms of pruritus and decrease the number of papules 95% to 100%.1,2

SOLUTION

A modified form of liposuction was performed on one axillae. Under general anesthesia, the right axilla was locally infiltrated with 0.5% bupivacaine hydrochloride (Marcaine) and epinephrine (1:200,000). A small incision was made along the axillary fold and a 4-mm suction lipectomy curet (Micrins) was inserted, with the orifice of the curet placed adjacent to the dermis. Suction was applied to the dermal surface and the curet was moved in a sweeping fashion over the underside of the dermis throughout the region of involvement. Less than 5 cm³ of material was extracted. An immediate decrease in number of papules on the surface of the axilla could be seen during the procedure. The insertion point was closed with interrupted 5-0 nylon suture. A sterile dressing was ap-
plied to the insertion wound. The patient awakened without difficulty, and was extubated and transferred to the recovery room in stable condition. The patient went home the same day of the procedure.

Wound care consisted of daily dressing (Bandaid) change to the insertion wound for 1 week. The postoperative period was uneventful. The patient had no bruising following the procedure. Relief of pruritus in the axillae was noted immediately following the surgery.

Two months following the procedure to the right axilla, the same procedure was performed on the left axilla. At 8 months after the second procedure, the patient had no pruritus and very few papules in the axillae (Figure 2). The patient no longer required any topical corticosteroids to the axillae, and the entry site scars from the procedures were barely visible.

Liposuction was not performed in the groin and periareolar areas. The patient continued to use intermittent topical corticosteroids for relief of pruritus in these areas.

COMMENT
Fox-Fordyce disease is a rare, chronic, pruritic disorder characterized by small perifollicular papules localized to the apocrine gland–bearing regions of the skin. Although a century has passed since its first description in 1902, the etiology and the exact pathogenesis of Fox-Fordyce disease remain unknown. While its etiology and pathogenesis remain a mystery, it is clear from the distribution of lesions and histologic findings that Fox-Fordyce disease is a disorder of the apocrine glands.

Although several topical medications have been reported to be useful, there is no definitive nonsurgical therapy for Fox-Fordyce disease. Numerous treatments have appeared in the literature, including hot quartz UV lamp,3 oral isotretinoin,4 topical tretinoin cream,5,6 and topical clindamycin solution.7,8 Our patient could not tolerate local irritation from topical tretinoin cream or clindamycin solution.

Few descriptions of surgical therapy for Fox-Fordyce disease have been published. The traditional surgical removal of apocrine glands is an extensive surgery. For the axillae, one approach is to excise the affected region of the axilla.1 For breast areola, a surgical technique has been described that involves dermal detachment of the areola, then excision of the underlying apocrine sweat glands, and finally placement of the previously detached areola as a skin graft.2

Recently, liposuction has been found to be beneficial in the treatment of axillary hyperhidrosis. Permanent removal of sweat glands can be achieved through a modified liposuction technique in which a liposuction cannula is introduced through a stab incision in the axilla and, with the aperture of the cannula turned upward to the underside of the dermis, the deeper dermis is curetted to create inflammation and subsequent fibrosis.9,10 An additional variation to this procedure is the use of tumescent regional anesthesia.11,12

As it is with axillary hyperhidrosis, eradication of the causal glands is the underlying principle in the use of this technique in our patient with Fox-Fordyce disease. The apocrine gland is composed of 3 segments: the intraepi-thelial duct, the intradermal duct, and the secretory portion. The apocrine gland’s coiled secretory portion is located at the junction of the dermis and subcutaneous fat. Eccrine glands have their coiled secretory portion within the panniculus near the junction of the dermis and subcutaneous fat. It has been argued that liposuction would not work well for apocrine diseases because of the attachment of the coiled secretory portion of the apocrine glands to the lower portion of the dermis, in contrast to eccrine glands, which have their coiled secretory portion in the fat.13 Successful treatment of axillary bromhidrosis has been reported, however, with additional findings of apocrine glands and eccrine glands within the aspirate.14 The combination of the suction and the mechanical scraping of the underside of the dermis likely facilitates the removal of the apocrine glands. The consequent inflammation and fibrosis of the underside of the dermis may also contribute to the overall effect of the liposuction curettage in eradicating the apocrine glands.

Liposuction-assisted curettage was clearly beneficial in our patient. While suction-assisted curettage using liposuction cannulas may not be appropriate for all patients and for all areas of disease involvement, we recommend its consideration for recalcitrant Fox-Fordyce disease of the axillae.

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REFERENCES


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