

Proliferation of steatocystomas in 2 transgender men



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INTRODUCTION

Exogenous testosterone is often used by transgender men for virilization and to suppress feminizing attributes. Although there are physical features of testosterone that are desired for men who are transitioning, such as deepening of the voice and facial hair development, it may also result in unwanted cutaneous side effects. Although androgen receptors within the pilosebaceous unit function to increase the facial and body hair, which improves gender dysphoria, anxiety, and depression, the impact of testosterone on these receptors can contribute to undesired changes, including scalp hair loss and acne exacerbation following increased sebum production.^{1,2} Herein, we describe an additional undesired cutaneous side effect, the onset and worsening of steatocystoma multiplex, a condition of numerous dermal cysts, in 2 transgender male patients on testosterone therapy.

CASE 1

A 22-year-old transgender man on testosterone therapy presented with a 12-month history of asymptomatic diffuse, small, flesh-colored nodules on the arms and legs. The nodules developed 3 months after initiating testosterone therapy. Clinical examination revealed numerous nontender ≤ 1 -cm cyst-like subcutaneous nodules throughout the flexural forearms, antecubital fossae, upper arms, and left popliteal fossa. The patient had no history of cysts before initiating testosterone and no family history of cysts. He had no other clinical examination

findings of skin or hair alteration. When the patient presented to dermatology, he was on a regimen of 100 mg of 10% compounded testosterone gel per day. A punch biopsy of one of the lesions revealed a dermal cyst lined by a thin stratified squamous epithelium without a granular layer, with small sebaceous lobules found in or adjacent to the cyst wall. Biopsy findings were consistent with steatocystoma multiplex, and although the cysts were disfiguring, he elected not to pursue treatment with surgical removal given the number of cysts and risk for subsequent scarring (Fig 1).

CASE 2

A 58-year-old transgender man who had been on transdermal testosterone therapy since the age of 46 years presented with worsening subcutaneous cysts. He reported a history of cysts on the forearms and vulvar area since the age of 16 years, which increased in size and number after he started testosterone therapy for masculinization. He noted that 1 to 2 times a year, one of the cysts would become inflamed and painful, more commonly in the groin area, and then rupture and drain after 1 week. When he chose to temporarily pause testosterone therapy for 1 year, the cyst number and size did not continue to increase. Then, on the resumption of transdermal testosterone, his cysts resumed increasing in size, most prominently on his forearms and vulvar area. On physical examination, he was noted to have multiple nontender, skin-colored, subcentimeter to >1 cm in size, and soft subcutaneous nodules on the flexural surfaces of the

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Fig 1. Subcutaneous forearm nodules consistent with steatocystomas.

forearms bilaterally extending to the axillae. A punch biopsy of a lesion on the right proximal forearm revealed a steatocystoma. Following the biopsy, he has elected not to pursue removal or other treatment options (Fig 2).

DISCUSSION

A steatocystoma is defined by a sebum-filled, hamartomatous malformation of the pilosebaceous duct unit³ believed to develop because of an abnormal lining of the sebaceous duct.⁴ Steatocystoma multiplex is the development of several steatocystomas in areas rich in sebaceous glands.³ Most steatocystomas remain asymptomatic; however, inflammation is possible, as in the case of our second patient. Steatocystoma multiplex can be inherited or sporadic.⁵ The familial type has been associated with a mutation in the keratin 17 gene located in the helix initiation domain that disrupts the assembly of the keratin intermediate filament in sebaceous glands, leading to the overproduction of sebum and cyst formation. Steatocystoma multiplex often presents during puberty when total testosterone reaches peak levels, suggesting a hormonal stimulus of the pilosebaceous unit.

The pattern of timing of onset and proliferation of the cysts in our 2 patients demonstrates a relationship with exogenous testosterone use. In a study of individuals starting gender-affirming therapy, testosterone therapy resulted in increased sebum production²; in our patients, testosterone initiation likely triggered a similar sebocyte response that was specifically connected with the steatocystoma proliferation. Interestingly, our patients did not develop any other undesired signs of known testosterone-sensitive cutaneous changes.



Fig 2. Numerous steatocystomas of variable size on the flexor forearm.

Steatocystoma multiplex can be disfiguring and, unfortunately, treatment options are challenging and limited. Isotretinoin, a vitamin A derivative and an effective treatment for acne, will often result in a lessening of the size of steatocystomas. Many patients, however, after a brief period of initial improvement on isotretinoin, experience recurrence and worsening of cysts. Although this medication functions by decreasing sebaceous gland size, sebum production, and sebocyte differentiation,⁶ there is no clear evidence that the treatment is curative for steatocystomas.⁷⁻⁹

Other options for management include antibiotics, usually tetracyclines, to reduce inflammation when present or destructive modalities through surgery, laser use, electrosurgery, or cryotherapy. The potential benefit of surgical removal must be weighed against the risk of resulting dyspigmentation, scarring, blistering, and cyst recurrence. Because of the disfiguring nature, associated risk of inflammation and scarring, and psychosocial impact it may have on the quality of life,³ it is important to recognize the potential development or worsening of steatocystomas in the setting of starting testosterone therapy for gender-affirming care.

Conflicts of interest

None disclosed.

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