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Risk factors for acne development in the first 2 years after initiating masculinizing testosterone therapy among transgender men

To the Editor: Female-to-male transgender patients (herein referred to as transgender men) receive masculinizing doses of testosterone to induce virilization and suppress menstruation. Studies have shown that elevated androgen levels among transgender men have been associated with an increased incidence of acne.[1-5] Studies suggest that testosterone therapy increases the development of acne, though severe acne occurs only rarely.[3] Our study assessed the timing of acne onset relative to initiation of testosterone therapy in transgender men and the biologic, behavioral, and sociodemographic predictors of acne in this population.

Transgender men whose hormone therapy was managed at the Center for Transgender Medicine and Surgery at Boston Medical Center in Boston, Massachusetts, between January 1, 2010, and December 31, 2017, were identified; a total of 69 transgender men were identified. Following a systematic medical chart review, individuals were excluded if (1) they were under the age of 18 years or undergoing testosterone therapy for less than 2 years, (2) their medical records were incomplete, or (3) acne was present before testosterone therapy. The study was conducted with the remaining 55 transgender men.

A multivariate logistic regression was conducted to determine whether acne occurrence in this population is influenced by age at initiation of testosterone therapy, race, alcohol use, smoking status, body mass index, serum testosterone level, and/or blood pressure. The median serum testosterone level (630 ng/dL) was used to differentiate between higher and lower levels. All predictor variables were entered into the logistic regression model by using SAS software (version 9.3, SAS Institute, Inc, Cary, NC). Summary measures were reported as odds ratios (ORs).

Table I summarizes the sample demographics of the 55 transgender men. Per the inclusion criteria, no patient had a history of acne. Acne developed in 9% of the transgender men after 3 months and in 18% after 6 months. After 24 months, 38% of the subjects had developed acne at some point within the study period (as seen in Fig 1).

Multivariate logistic regression revealed that acne was significantly associated with serum testosterone levels higher than 630 ng/dL (OR, 8.137; 95% confidence interval [CI], 1.53-43.43; $P < .02$). The adjusted model also revealed that an increased body mass index was associated with an increased incidence of acne (OR, 1.18; 95% CI, 1.04-1.33; $P = .01$) and that this risk was further increased by a positive current smoking status (OR, 5.51; 95% CI, 1.02-29.77; $P < .05$) (as seen in Table I).

Several existing studies have shown that transgender men experience increased sebum production and acne with testosterone therapy.[3,5] The virilization effects of testosterone in transgender men, both systemic and dermatologic, are somewhat variable in intensity and timing after the initiation of testosterone therapy.[4] Additionally, individual goals for testosterone therapy range from maximum virilization to suppression of feminizing secondary sex characteristics only.[5] Nakamura et al reported that during the first 6 months only, the most commonly desired virilization effects were dose dependent.[4] If a transgender man begins to develop acne, it may be possible to personalize his testosterone therapy depending on transition goals, priorities, risk factors, and other comorbidities.

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Table I. Demographic characteristics of transgender men with and without acne and multivariate logistic regression analysis

Variable	All (N = 55)	Acne (n = 21)	No acne (n = 34)	Odds ratio (95% CI)	*P* value
Mean age, y (SD)	28.5 (11.8)	25.7 (7.6)	30.2 (13.6)	0.946 (0.871-1.029)	.195
Mean BMI, kg/m^2 (SD)	27.7 (6.9)	30.0 (7.3)	26.3 (6.4)	1.176 (1.039-1.330)	.010*
Mean SBP, mm Hg (SD)	124.4 (18.3)	119.5 (14.0)	127.4 (20.1)	0.949 (0.896-1.005)	.076
Race (nonwhite vs white), n (%)				0.992 (0.193-5.111)	.993
White	41 (74.6)	16 (76.2)	25 (73.5)		
Nonwhite	14 (25.4)	5 (23.8)	9 (26.5)		
Serum testosterone level >630 vs ≤630 ng/dL, n (%)				8.137 (1.525-43.427)	.014*
> 630 ng/dL	28 (50.1)	14 (66.7)	14 (41.2)		
≤ 630 ng/dL	27 (49.9)	7 (33.3)	20 (58.8)		
Currently using alcohol, n (%)	28 (50.9)	11 (52.4)	17 (50.0)	0.638 (0.133-3.055)	.574
Current smoker, (%)	18 (32.7)	10 (47.6)	8 (23.5)	5.508 (1.019-29.767)	.048*

BMI, Body mass index; *SBP*, systolic blood pressure; *SD*, standard deviation.
**P* value <.05.

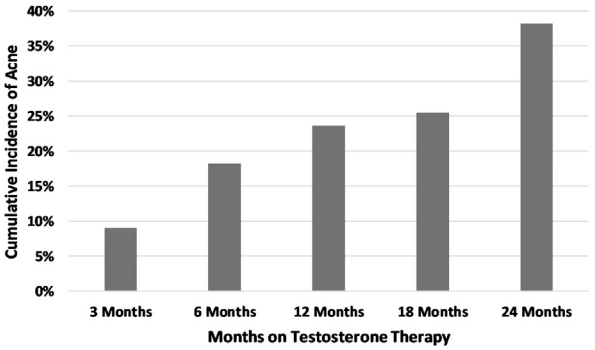

Fig 1. Cumulative incidence of acne among transgender men who are receiving hormone therapy relative to duration of testosterone therapy.

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Dermatologic care and sun protection practices need improvement in childhood cancer survivors

To the Editor: Childhood cancer survivors face numerous cutaneous complications of cancer therapy that adversely affect long-term health outcomes.[1] Although the Children's Oncology Group recommends annual skin examinations for survivors, regular dermatologic surveillance in these patients is not standardized across institutions.[2] Hence, we sought to better understand the skin cancer surveillance and sun protection practices of childhood cancer survivors at our institution to identify areas in which a stronger dermatology presence could improve the identification and management of cutaneous complications. Retrospective chart review of dermatology intake surveys and medical records was performed for 78 patients at their first dermatologic visit at a multidisciplinary survivorship clinic at the Dana-Farber Cancer Institute between 2013 and 2017. Collected variables included demographic information; oncologic diagnoses; treatments modalities; and patient history information regarding past skin examinations, sunburns, and sun protection behaviors.

Table I shows the patient demographic characteristics of our study. The mean age at oncologic diagnosis was 7.1 years (standard deviation [SD], 5.5). Oncologic diagnoses included brain tumors (in 47.4% of patients [37 of 78]), hematologic malignancies (in 34.6% [27 of 78]), nonmalignant diagnoses requiring hematopoietic stem cell transplantation (in 5.1% [4 of 78]), and melanoma (in 3.8% [1 of 78]). Treatments included chemotherapy (in 83.3% of patients [65 of 78]),