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.

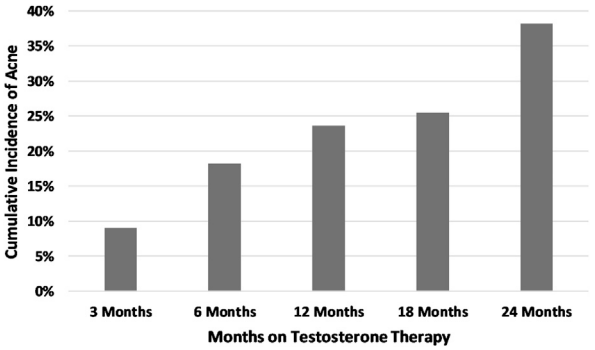

Fig 1. Cumulative incidence of acne among transgender men who are receiving hormone therapy relative to duration of testosterone therapy.

Conflicts of interest: None disclosed.

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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]),

Table I. Patient demographic and oncologic characteristics (N = 78)

Characteristic	Value
Mean age at oncologic diagnosis, y (SD)	7.1 (5.5)
Oncologic diagnosis, n (%)	
Brain tumor	37 (47.4)
Hematologic malignancy/MDS	27 (34.6)
Nonmalignant diagnosis	4 (5.1)
Melanoma	1 (3.8)
Treatment, n (%)	
Chemotherapy	65 (83.3)
HSCT	16 (20.5)
Localized radiation	55 (70.5)
Total body irradiation	6 (7.7)
Targeted therapy	2 (2.6)
Other history and exposures, n (%)	
Acute GVHD	2 (2.6)
Chronic GVHD	4 (5.1)
Voriconazole use >6 mo	4 (5.1)

GVHD, Graft-versus-host disease; *HSCT*, hematopoietic stem cell transplant; *MDS*, myelodysplastic syndrome; *SD*, standard deviation.

Table II. Patient dermatologic characteristics (N = 78)

Characteristic	Value
First-degree relative with skin cancer, n (%)	
NMSC	6 (7.7)
Melanoma	2 (2.6)
Both NMSC and melanoma	1 (1.3)
Seen by dermatologist before visit, n (%)	
Yes	19 (24.4)
No	59 (75.6)
Full-skin examination before this visit, n (%)	
Yes	35 (44.9)
No	43 (55.1)
Sunscreen use in past 12 mo, n (%)	
Yes	56 (71.8)
No	22 (28.2)
Sunburn in past 12 mo, n (%)	
Yes	28 (23.4)
No	50 (76.6)
Skin findings, n (%)	
Alopecia	14 (17.9)
Scar	6 (7.7)
Atypical nevi	4 (5.1)
NMSC (BCC)	1 (1.3)
Mean age at initial dermatology visit, y (SD)	20.5 (7.7)
Mean time from completion of cancer therapy to initial dermatology visit, y	11.8 (6.7)
Initial dermatology visit >10 y from completion of cancer therapy, n (%)	38 (48.7)

BCC, Basal cell carcinoma; *NMSC*, nonmelanoma skin cancer; *SD*, standard deviation.

hematopoietic stem cell transplantation (in 20.5% [16 of 78]), localized radiation (in 70.5% [55 of 78]), total body irradiation (in 7.7% [6 of 78]), and other targeted therapies (in 2.6% [2 of 78]). Table II contains the dermatologic characteristics of our study population. The mean age of patients at their dermatology visit was 20.5 years (SD, 7.7). The mean interval between completion of cancer therapy and dermatology visit was 11.8 years (SD, 6.7), with 48.7% of patients (38 of 78) having their first dermatology visit more than 10 years after completion of therapy. Before this visit, only 24.3% of patients (19 of 78) had seen a dermatologist and 44.9% (35 of 78) had received a full-body skin examination. While 71.8% of patients (56 of 78) reported sunscreen use, 35.9% (28 of 78) reported at least 1 sunburn in the past 12 months. Diagnoses made at the dermatology visit included alopecia (in 17.9% of patients [14 of 78]), scarring (in 7.7% [6 of 78]), atypical nevi (in 5.1% [4 of 78]), and basal cell carcinoma (BCC) (in 1.3% [1 of 78]).

Despite the importance of dermatologic care in childhood cancer survivors, our results revealed that at our institution, a significant percentage of patients did not practice optimal sun protection behaviors and waited more than a decade after completion of cancer therapy before their initial dermatology visit. Moreover, our study identified numerous patients with cutaneous complications of cancer therapy, including a patient with BCC, suggesting that survivors are at risk of delayed diagnosis of serious dermatologic complications.[2] Nonmelanoma skin cancers are the most common secondary malignancies in childhood cancer survivors, with an estimated 5-fold increase in incidence and an earlier age of onset compared to the general population.[3,4] Numerous factors contribute to this increased malignancy risk, including radiation therapy as a risk factor for BCC and graft-versus-host disease, prolonged immunosuppression, and voriconazole use as risk factors for squamous cell carcinoma.[4,5] Despite the limitations in geographic distribution and sample size in our study, our findings highlight the need for early and effective counseling for patients and families about the importance of dermatology follow-up and sun safety practices as vital components of survivorship care for childhood cancer survivors.

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Assessment of biotin supplementation among patients in an outpatient dermatology clinic

To the Editor: Biotin, or vitamin B_7, is essential for metabolic pathways, but supplementation is unnecessary for patients who are following a normal Western diet and do not have any malabsorption issues or nutrient deficiencies.[1] Although there is limited evidence that biotin supplementation improves skin, hair, and nail conditions, it is routinely recommended by dermatologists and primary care physicians.[2-4] A recent US Food and Drug Administration warning stated that biotin supplementation can interfere with laboratory tests, potentially leading to missed or inappropriate diagnoses with clinical implications.[5]

An anonymous voluntary survey was administered to patients at Weill Cornell Medicine Dermatology from June 4 to June 20, 2018, after institutional review board approval. All statistical analyses and graphics were produced by using the R software (version 3.5.1, R Foundation for Statistical Computing, Vienna, Austria).

A total of 447 participants were enrolled in the study, and 152 subjects (33.7%) indicated current (n = 61 [13.5%]) or past (n = 91 [20.2%]) biotin use. Of the 152 biotin users, 88 (57.9%) reported no improvement in their conditions with biotin. Of the 62 patients who benefited from biotin use, 17 (27.4%) reported improvement in hair and nails (Fig 1). Either a primary care physician or dermatologist had recommended biotin to 28.8% of the biotin users, and 54.6% of users had self-prescribed biotin. Only 4.7% of all participants and 6.6% of the biotin users were aware of the US Food and Drug Administration warning. Only 6 subjects were informed of this warning by their physician. Of the biotin users, 56.2% underwent laboratory testing while taking biotin.

Our study demonstrates that biotin intake is highly prevalent in patients attending a dermatology clinic at an urban academic medical center despite the lack of clinical evidence showing benefit for dermatologic conditions.[2-4] These findings may not be generalizable to other populations.

Although the effect of biotin on normal nails is unknown, prior studies have suggested that biotin supplementation improves brittle nails, triangular worn-down nails, trachyonychia, and habit-tic nail deformity. Biotin has been used for hair disorders, but most patients who exhibited improvement had inherited or acquired biotin deficiencies.[4]

Alteration in laboratory troponin levels with biotin, resulting in a missed diagnosis of myocardial infarction, has been reported.[5] Biotin supplementation has resulted in biochemical Graves disease in euthyroid individuals, leading to unnecessary treatments.

Given its potential to affect common laboratory test results and the lack of sufficient evidence regarding its benefit, biotin should not be routinely recommended by physicians. Physicians should be educated about the risks and benefits of biotin use and should confirm biotin deficiency via laboratory assays before recommending supplementation. Patients should be encouraged to inform their physicians about biotin use. We suggest that laboratories include a check box for biotin supplementation on their requisitions, given the possible alteration of laboratory values.

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