intent was to highlight patient needs, educate providers, and advocate for people with HS, we regret that this publication has raised privacy concerns. When questions about the research were raised, we met with patients with HS and advocates and apologized to any members who indicated to us that they were made uncomfortable. We have made modifications to this letter in response to suggestions from the HS community and have learned a great deal from them about how research such as this could be approached in better ways. To that end, we are committed to developing and promulgating recommendations for research standards to better inform online community members, researchers, and institutional review boards about how to best conduct this type of research. In this spirit, we hope that we will be able to move research, patient care, and support for patient communities forward in a way that will benefit patients with HS, about whom we care deeply.

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Antibiotic exposure is associated with cutaneous adverse events in hairy cell leukemia patients treated with purine analogues

To the Editor: The purine analogues cladribine and pentostatin have been associated with cutaneous adverse events in the treatment of hairy cell leukemia (HCL).[1-3] Studies have shown that rash development may be associated with hypersensitivity to concomitant medications rather than to the purine analogue itself.[1-3] The objective of this study was to perform a case-control analysis of cutaneous eruptions in patients with HCL treated with purine analogues to determine which factors may be associated with development of the morbilliform rash described in a separate publication.

Patients with HCL at The Ohio State University who were treated with cladribine or pentostatin from 1994 to 2017 were studied. Eighty-eight patients were identified. Nine patients treated with both agents were considered separately for analysis, for a total of 97 cases treated with either chemotherapeutic agent. Medication exposures were evaluated in a binary fashion if the medication was used during the treatment course. Univariate logistic regression was performed to analyze potential predictors of morbilliform rash. A multivariate model of covariates with a P value less than .10 from the univariate model was then created. Separate models were created in similar fashion for antibiotic subclasses. P values less than .05 were considered statistically significant. Analyses were performed with JMP 13 and R software.

Of the 88 patients treated with purine analogues, 17 developed a morbilliform rash and 80 had no documented rash. Concomitant antibiotics, antivirals, dapsone, allopurinol, and use of pentostatin were associated with morbilliform rash on univariate analysis. The initial multivariate analysis with these variables revealed only antibiotic exposure as a significant independent predictor of morbilliform eruption (odds ratio [OR], 21.20; 95% confidence interval [CI], 3.08-201) (Table I). To further

Table I. Univariate and multivariate analysis of factors associated with morbilliform rash in patients with hairy cell leukemia treated with cladribine or pentostatin

			Univariate model			Multivariate model		
Factor	Morbilliform rash (n = 17)	No morbilliform rash (n = 80)	Odds ratio*	*P* value	95% confidence interval	Odds ratio*	*P* value	95% confidence interval
Male, n (%)	15 (88.2)	62 (77.5)	2.18	.33	(0.54, 14.6)			
Mean age, y (range)	63.9 (29-87)	60.8 (36-94)	1.02	.40	(0.98, 1.06)			
Mean body mass index, kg/m^2 (range)	29.7 (23.7-38.8)	29.5 (19.0-47.8)	1.01	.85	(0.91, 1.11)			
Pentostatin, n (%)	13 (76.5)	40 (50)	3.25	.055‡	(0.98, 10.8)	1.97	.352	(0.49, 9.28)
Mean treatment length, y (range)†	0.9 (0.2-1.1)	1.0 (0.1-3.3)	0.58	.47	(0.11, 2.11)			
Febrile neutropenia, n (%)	6 (35.3)	11 (13.8)	1.43	.56	(0.41, 4.81)			
Antibiotic, n (%)	15 (88.2)	33 (41.3)	10.7	.003‡	(2.77, 70.7)	21.20	.003§	(3.08, 201)
Antiviral, n (%)	11 (64.7)	29 (36.3)	3.22	.036‡	(1.11, 10.2)	0.21	.086	(0.03, 1.23)
Antifungal, n (%)	1 (5.9)	11 (13.8)	0.39	.39	(0.02, 2.25)			
Antiprotozoal, n (%)	1 (5.9)	5 (6.3)	0.94	.95	(0.05, 6.35)			
Dapsone, n (%)	6 (35.3)	10 (12.5)	3.82	.028‡	(1.11, 12.6)	2.30	.256	(0.55, 10.2)
Allopurinol, n (%)	3 (17.6)	4 (5.0)	4.07	.089‡	(0.74, 20.5)	1.71	.550	(0.27, 10.2)

*Odds ratios calculated per unit change for continuous variables.
†Treatment lengths for individual patients were calculated as a percentage of the mean treatment length obtained from this cohort of patients.
‡*P* value <.10.
§P-value <.05.

Table II. Univariate and multivariate analysis of antibiotic subclasses associated with morbilliform rash in patients with hairy cell leukemia treated with cladribine or pentostatin

			Univariate model			Multivariate model		
Antibiotic	Morbilliform rash (n = 17)	No morbilliform rash (n = 80)	Odds ratio	*P* value	95% confidence interval	Odds ratio	*P* value	95% confidence interval
Penicillin, n (%)	5 (29.4)	5 (6.2)	6.25	.009*	(1.54, 25.8)	5.87	.022†	(1.26, 27.9)
Fluoroquinolone, n (%)	7 (41.2)	18 (20.0)	2.80	.069*	(0.90, 8.50)	1.46	.56	(0.38, 5.14)
Sulfonamide, n (%)	8 (47.1)	21 (26.2)	2.50	.095*	(0.84, 7.39)	2.46	.14	(0.73, 8.31)
Cephalosporin, n (%)	1 (5.9)	11 (13.8)	0.39	.386	(0.02, 2.25)			
Clindamycin, n (%)	1 (5.9)	2 (2.5)	2.44	.478	(0.21, 28.5)			
Vancomycin, n (%)	1 (5.9)	8 (10.0)	0.56	.600	(0.07, 4.82)			
Macrolide, n (%)	1 (5.9)	7 (8.8)	0.65	.698	(0.03, 4.04)			

**P* value <.10.
†*P* value <.05.

investigate the relationship between antibiotics and rash development, we examined antibiotic subclasses. Past descriptive studies[1-3] have shown that penicillins, fluoroquinolones, and sulfonamides may be associated with rash development in this population. In our cohort of patients, multivariate analysis of these variables revealed only penicillins as a significant independent predictor of rash (OR, 5.87; 95% CI, 1.26-27.9) (Table II). Also in contrast to the findings of prior reports,[1-3] allopurinol was not significantly associated with rash; however, this may have been due to its low reported use in our study.

Antibiotics, most notably penicillins, used concomitantly with purine analogues in the treatment of HCL were found to be independently associated with development of morbilliform rash. A suggested mechanism of the pathogenesis of these cutaneous eruptions is that the profound $CD4^+$ lymphopenia, inclusive of regulatory T cells, induced by these purine analogues results in hypersensitivity and decreased drug tolerance.[1] In support of this hypothesis, sulfonamides and aminopenicillins have also been associated with morbilliform rash in patients with HIV, with the incidence of rash correlating with deterioration in immune function.[4]

The main limitation of our study is the rarity of HCL, with few patients having experienced the event of interest. However, this is one of the largest cohorts of patients with HCL to date, and statistical studies have suggested that 5 or even fewer events per variable may be sufficient for analysis.[5] These findings have potential to assist both hematologists and dermatologists in medication management for future patients with HCL.

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Camp Sun Safe: A community-level sun safety intervention

To the Editor: Skin cancer remains the most common cancer in the United States. Exposure to ultraviolet light radiation and sunburns are considered the strongest yet most preventable environmental risk factors for skin cancer.[1,2] The US Community Preventive Task Force considers community-wide interventions as effective ways to increase sunscreen use and reduce sunburns, using sunburn incidence as an "outcome of interest."[3] Given the importance of initiating photoprotection at an early age, we designed an intervention aimed to determine whether the education of camp counselors can change the behavior of young campers.

Three "sleep-away" camps in the Blue Ridge Mountains were chosen. Two camps received the educational intervention, camp A (all female) and camp B (all male). Camp C (both female and male) served as the control and did not receive intervention. All participants were employed counselors with direct contact to campers. All camps received packing lists distributed by the camp administration to families before the session.

A consent script was read aloud to counselors. The intervention included a true or false question and answer session, an overview of ultraviolet radiation—induced skin cancers, guidelines for sunscreen application with demonstration, benefits of protective clothing, encouragement that all breaks be in the shade, and a short role-playing activity with hypothetical camp scenarios that should prompt counselors to reapply sunscreen. We discussed risk factors for sunburns and skin cancer, and we encouraged counselors to identify campers with risk factors.

Surveys were adapted from a previously validated and published study conducted amongst lifeguards.[4] All participants completed a preintervention survey. Camps A and B received intervention and immediately completed a postintervention survey. Camp C did not receive intervention. All camps completed a postintervention survey 4 weeks later.

Primary endpoints were to improve the counselors' objective knowledge of sun safety and attitudes toward sun protection. Secondary endpoints were to improve counselors' sun safe behaviors and decrease the incidence of camper sunburns during the camp session.

Most counselors were 18 to 21 years of age and were white. Seventy-eight percent had "very fair" or "fair" skin. All had at least a high school degree. There were 46 female and 30 male participants.

Knowledge test scores 4 weeks after intervention were increased significantly in both groups (Fig 1). Camp B increased from a median of 55 preintervention to 80 postintervention ($P < .01$). Camp A increased from a median of 60 to a median score of 100 ($P < .01$). Test scores also increased significantly