(Table I). After consultation with patient decision aid use, decisional conflict significantly improved (Decisional Conflict Scale mean score 15.8; $P = .01$), and patients reported a high level of shared decision making (9-Item Shared Decision-Making Questionnaire mean score 87.2).

Given the complexity of the treatment options, collaborative decision making is an essential component of lentigo maligna management. Patient participation in health care decision making has been shown to reduce pretreatment anxiety and promote empowerment.[4] The patient decision aid used in this study provided information regarding treatment efficacy, advantages and adverse effects, expected follow-up, and estimated associated costs. Because the multiple treatment options for lentigo maligna have different benefits and limitations that people may value differently, patient decision aids may be particularly helpful.[5] Patients without a history of melanoma reported significantly greater decisional conflict compared with those with such a history; this evidence-based, patient-directed, patient decision aid may be used to address questions regarding a new cancer diagnosis. In addition, our results indicate that patients may require a tailored discussion to elucidate their values before making a treatment decision. The "things I might consider" section of the patient decision aid provides starting points for discussion and encourages self-reflection.

Use of a visual patient decision aid in conjunction with physician consultation significantly reduced decisional conflict and facilitated effective shared decision making for patients with lentigo maligna. This pilot study demonstrates the importance of seeking patient input in treatment decisions and providing information through different media to facilitate comprehension.

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Outcomes and predictors of survival in cutaneous melanoma of the eyelid: An analysis of the National Cancer Database

To the Editor: Eyelid melanoma (EM) is a rare condition that accounts for <1% of eyelid malignancies.[1] EM is traditionally believed to behave similarly to cutaneous melanoma (CM) elsewhere in the head and neck (HN).[2] However, the eyelid

Table I. Baseline demographics

Total	Eyelid melanoma in situ (n = 1023)		Invasive eyelid melanoma (n = 888)		Invasive other* (n = 61,963)		P†
Age, y							**.0001**
Mean (SD)	68.0 (12.9)		66 (15.8)		63.5 (16.9)		
Median (IQR)	69 (60-78)		68 (56-78)		66 (53-77)		
	No.	%	No.	%	No.	%	
Age, y							**.001**
<70	528	51.6	477	53.7	36,610	59.1	
≥70	495	48.4	411	46.3	25,353	40.9	
Sex							**.001**
Male	543	53.1	439	49.4	43,941	70.9	
Female	480	46.9	449	50.6	18,022	29.1	
Race							**.02**
White	985	96.3	853	96.1	60,479	97.6	
Black	4	0.4	3	0.3	190	0.3	
Other	15	1.5	13	1.5	422	0.7	
Missing	19	1.9	19	2.1	872	1.4	
Histology							**.0001**
NOS or other	641	62.7	450	50.7	29,196	47.1	
Lentigo maligna	356	34.8	164	18.5	8618	13.9	
Nodular	0	0.0	83	9.3	6494	10.5	
Spindle cell melanoma	0	0.0	13	1.5	1536	2.5	
Superficial spreading	26	2.5	157	17.7	13,900	22.4	
Desmoplastic	0	0.0	21	2.4	2219	3.6	
Surgical procedure							**.001**
Wide local excision	342	33.4	352	39.6	35,439	57.2	
Surgery, NOS, or other major amputation	6	0.6	19	2.1	346	0.6	
Local tumor excision	216	21.1	144	16.2	5976	9.6	
Biopsy followed by gross excision	237	23.2	233	26.2	16,031	25.9	
Mohs micrographic surgery	202	19.7	112	12.6	3078	5.0	
None	19	1.9	25	2.8	1068	1.7	
Missing	1	0.1	3	0.3	25	0.0	
Breslow thickness							**.0001**
<1 mm	…	…	452	50.9	30,725	49.6	**.0001**
1 to 2 mm	…	…	134	15.1	11,528	18.6	
2 to 4 mm	…	…	86	9.7	8262	13.3	
>4 mm	…	…	77	8.7	7426	12.0	
Missing			139	15.7	4022	6.5	
Ulceration							.253
No ulceration present	…	…	635	71.5	46,598	75.2	
Ulceration present	…	…	135	15.2	11,046	17.8	
Missing			118	13.3	4319	7.0	
Facility type							**.001**
Community program	343	33.5	276	31.1	21,659	35.0	
Academic/research program	564	55.1	469	52.8	28,021	45.2	
Integrated network cancer program	93	9.1	81	9.1	5868	9.5	
Missing	23	2.2	62	7.0	6415	10.4	
Charlson-Deyo Comorbidity Score							.597
0	894	87.4	762	85.8	52,713	85.1	
1	92	9.0	95	10.7	7257	11.7	
≥2	37	3.6	31	3.5	1993	3.2	

Continued

Table I. Cont'd

Total	Eyelid melanoma in situ (n = 1023)		Invasive eyelid melanoma (n = 888)		Invasive other* (n = 61,963)		$P^{\dagger}$
Stage							**.0001**
0	1023		…	…	…	…	
I	…	…	492	55.4	35,286	56.9	
II	…	…	171	19.3	13,482	21.8	
III	…	…	38	4.3	5825	9.4	
IV	…	…	20	2.3	1539	2.5	
Missing	…	…	167	18.8	5831	9.4	
Regional lymph nodes							
Negative	…	…	214	24	24,601	40	
Positive	…	…	42	5	5853	9	
Not examined	…	…	626	70	31,093	50	
Missing	…	…	6	1	416	1	
Immunotherapy							**.001**
No	1000	97.8	858	96.6	58,888	95.0	
Yes	21	2.1	17	1.9	2509	4.0	
Missing	2	0.2	13	1.5	566	0.9	
Chemotherapy							.12
No	1001	97.8	849	95.6	58,911	95.1	
Yes	2	0.2	10	1.1	1135	1.8	
Missing	20	2.0	29	3.3	1917	3.1	
Radiotherapy							.51
No	1017	99.4	840	94.6	58,573	94.5	
Yes	4	0.4	39	4.4	3031	4.9	
Missing	2	0.2	9	1.0	359	0.6	
Income status							.311
<38,000	104	10.2	110	12.4	7334	11.8	
38,000-47,999	213	20.8	209	23.5	13,488	21.8	
48,000-62,999	249	24.3	248	27.9	17,064	27.5	
≥63,000	450	44.0	314	35.4	23,765	38.4	
Missing	7	0.7	7	0.8	312	0.5	
Insurance status							**.027**
Not insured	9	0.9	23	2.6	1285	2.1	
Private/managed care	394	38.5	362	40.8	28,328	45.7	
Government insurance‡	586	57.3	470	52.9	30,971	50.0	
Missing	34	3	33	4	1379	2	

IQR, Interquartile range; *NOS*, not otherwise specified; *SD*, standard deviation.
*Noneyelid invasive head and neck melanoma.
†Bold *P* values are statistically significant ($P < .05$).
‡Medicaid, Medicare, other government insurance.

is unique in its anatomic features and lymphatic drainage, which may cause lesions of the eyelid and to behave differently than other HN CM cases.[2] This study investigated the demographics, survival, and prognostic factors of EM in situ and invasive EM in the National Cancer Database and compared invasive EM against other (noneyelid) invasive head and neck (OIHN) melanoma of the skin.

A total of 1023 patients with of EM in situ, 888 patients with invasive EM, and 61,963 patients with OIHN melanoma were selected in the NCDB from 2004 to 2016. The median age of diagnosis for EM in situ, invasive EM, and OIHN was 69 years (interquartile range [IQR], 60-78 years), 68 years (IQR, 56-78 years), and 66 years (IQR, 53-77 years; $P < .001$), respectively (Table I). The 5-year and 10-year overall survival in EM in situ were 84.6% and 65%, respectively. The 5-year and 10-year overall survival were significantly higher for invasive EM (74.9% and 57.6%) than for OIHN (71.1% and 54.4%; $P = .04$). More men (70.9%) were affected in noneyelid HN melanoma than invasive EM (49.4%; $P < .0001$). Patients with OIHN presented with a higher median Breslow thickness (0.90 mm; IQR, 0.38-2.10 mm) than patients with invasive EM 0.7 mm (IQR, 0.28-1.72 mm; $P < .0001$).

Table II. Cox proportional hazards model of invasive eyelid melanoma and overall head and neck melanoma of the skin

	Invasive eyelid melanoma*†				Head and neck melanoma of the skin*†			
		95% CI				95% CI		
Variables	HR	Lower bound	Upper bound	P‡	HR	Lower bound	Upper bound	P‡
Age, y								
<70	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
>70	2.125	1.247	3.622	**.006**	2.552	2.427	2.684	**.0001**
Sex								
Male	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Female	0.752	0.507	1.115	.156	0.832	0.797	0.869	**.0001**
Primary site								
Eyelid	…	…	…	…	Ref	Ref	Ref	Ref
Head neck other	…	…	…	…	1.21	1.021	1.432	**.027**
Race								
White	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Black	…	…	…	…	1.894	1.338	2.682	**.0001**
Other	0.832	0.103	6.737	.863	1.204	0.948	1.528	.128
Surgical procedure								
Wide local excision	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Surgery, NOS, or other major amputation	2.733	1.043	7.159	**.041**	1.018	0.805	1.287	.88
Local tumor excision	1.408	0.818	2.421	.216	1.15	1.084	1.22	**.0001**
Biopsy followed by gross excision	1.025	0.603	1.74	.928	0.902	0.86	0.946	**.0001**
Mohs micrographic surgery	1.349	0.698	2.607	.374	0.946	0.855	1.047	0.287
None	5.543	1.439	21.351	**.013**	2.667	2.3	3.093	**.0001**
Chemotherapy								
No	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Yes	0.361	0.018	7.211	.505	1.673	1.501	1.864	**.0001**
Radiotherapy								
No	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Yes	0.759	0.239	2.408	.639	1.151	1.071	1.236	**.0001**
Immunotherapy								
No	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Yes	1.82	0.33	10.029	.492	0.867	0.789	0.953	**.003**
Breslow thickness								
<1 mm	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
1 to 2 mm	1.435	0.799	2.578	.227	1.336	1.263	1.413	**.0001**
2 to 4 mm	2.402	1.053	5.481	**.037**	1.388	1.294	1.489	**.0001**
>4 mm	2.418	1.031	5.669	**.042**	1.883	1.755	2.02	**.0001**
Ulceration								
No ulceration present	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Ulceration present	1.138	0.663	1.953	.638	1.445	1.38	1.514	**.0001**
Histology								
NOS or other	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Lentigo maligna	0.996	0.565	1.754	.988	0.952	0.895	1.012	.117
Nodular	1.402	0.723	2.717	.317	1.073	1.016	1.134	**.012**
Spindle cell melanoma	1.406	0.313	6.313	.657	0.911	0.828	1.003	.057
Superficial spreading	0.999	0.597	1.67	.996	1.02	0.969	1.074	.444
Desmoplastic	1.279	0.342	4.78	.715	0.781	0.711	0.859	**.0001**
Regional lymph nodes								
Negative	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Positive	8.03	1.852	34.812	**.005**	1.552	1.401	1.719	**.0001**
Not examined	3.395	1.839	6.267	**.0001**	1.441	1.379	1.506	**.0001**

Continued

Table II. Cont'd

Variables	Invasive eyelid melanoma*†				Head and neck melanoma of the skin*†			
		95% CI				95% CI		
	HR	Lower bound	Upper bound	P‡	HR	Lower bound	Upper bound	P‡
Stage								
I	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
II	1.425	0.668	3.041	.36	1.489	1.394	1.59	**.0001**
III	1.074	0.286	4.039	.915	1.959	1.755	2.187	**.0001**
IV	5.367	1.202	23.97	**.028**	5.085	4.544	5.69	**.0001**
Facility type								
Community program	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Academic/research program	0.954	0.631	1.443	.823	0.895	0.86	0.931	**.0001**
Integrated network cancer program	0.655	0.313	1.368	.26	0.948	0.89	1.01	.097
Charlson-Deyo Comorbidity Score								
0	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
1	1.442	0.862	2.413	.163	1.249	1.188	1.313	**.0001**
≥2	2.461	1.151	5.258	**.02**	1.86	1.722	2.009	**.0001**
Income status								
<$38,000	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
$38,000-47,999	0.85	0.458	1.578	.606	0.941	0.886	0.999	**.046**
$48,000-62,999	1.106	0.608	2.01	.741	0.903	0.851	0.958	**.001**
≥$63,000	0.633	0.329	1.215	.169	0.828	0.781	0.878	**.0001**
Insurance status								
Not insured	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Private/managed care	0.497	0.11	2.238	.362	0.663	0.578	0.76	**.0001**
Government insurance§	0.853	0.189	3.848	.836	0.957	0.834	1.098	.534

CI, Confidence interval; *HR*, hazard ratio; *NOS*, not otherwise specified.

*Multivariate HRs are presented. Variables controlled for and included in the model for invasive eyelid melanoma and other invasive head and neck melanoma were age, race, primary site, Breslow thickness, ulceration, facility type, Charlson-Deyo Comorbidity Score, stage, chemotherapy, radiotherapy, immunotherapy, income status, insurance status, histology, regional lymph node status, and surgical procedure. HRs presented are adjusted HRs for the aforementioned variables.

†The variables did not violate the proportionality assumption. The proportionality assumption for each variable included was evaluated graphically using log-negative-log survival curves and statistically using interactions with time.

‡Bold *P* values denote statistical significance ($P < .05$) on Cox proportional hazards multivariate model

§Medicaid, Medicare, other government insurance.

When adjusting for confounders, positive regional lymph nodes (reference negative; hazard ratio [HR], 8.0; 95% confidence interval [CI], 1.8-34.8) were independent predictors of worse overall survival and associated with the highest hazard of death. In the Cox regression for HN CM, OIHN melanoma was independently associated with worse overall survival (reference, invasive EM; HR, 1.2; 95% CI, 1.02-1.4) (Table II). Supplemental Methods, full Results, Discussion, and Tables are available via Mendeley at https://data.mendeley.com/datasets/hfjnt8j6d7/1.

Invasive EM was independently associated with better overall survival when adjusting for confounders. Prior studies of CM of the HN have shown differences in survival based on primary site and have postulated that these survival differences may be due to differences in lymphatic drainage by anatomic location, with the scalp and neck showing the highest rate of lymph node metastasis and lowest rates of survival.[3]

Positive regional lymph node status, as determined by pathology via aspiration, biopsy, sampling, or dissection, is found to be the single most important prognostic factor in invasive EM survival (reference: negative regional lymph node; HR, 8.03; 95% CI, 1.85-34.8). Previous studies of CM and CM of the HN have shown the importance of lymph node status.[4] Regional node status has been traditionally assessed by sentinel lymph node biopsy, surgical biopsy, ultrasound, or fine-needle aspiration.[4] Previous studies have shown that invasive EM metastasizes to lymph nodes in 29% to 33% of patients, which is higher than the rate in general HN CM (15%).[5] However, sentinel lymph node biopsies in HN CM and invasive EM are a topic

of controversy, and multicenter controlled trials may be needed to further investigate and validate the use of sentinel lymph node and the prognostic importance of regional lymph node status in invasive EM.[5]

EM affects men and women almost equally and has a better prognosis than OIHN melanoma. Our study shows that the single most important prognostic factor is regional lymph node metastases, followed by distant metastases (stage IV disease), and Breslow thickness greater than 2 mm.

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Longitudinal brush pigmentation on the hyponychium, a dermoscopic feature observed in pediatric nail matrix nevi

To the Editor: Differentiating nail matrix nevus (NMN) from subungual melanoma on clinical grounds is challenging, especially in children, because their NMNs may mimic clinical features of subungual melanoma.[1-3] We reported a dermoscopically linear and parallel pigmentation in a longitudinal direction on Hutchinson sign of the hyponychium in children with NMN.[3] We named this pattern longitudinal brush pigmentation (LBP) and consider it a distinctive dermoscopic feature observed in pediatric NMN.

To further support this, we present the clinical, dermoscopic, and histologic features of hyponychial LBP associated with longitudinal melanonychia in additional 15 children observed between 2014 and 2019. Biopsy specimens of the hyponychial LBP were performed in 14 patients and nail matrix biopsy specimen in 1 patient.

All patients showed LBP at the hyponychium, brown lines that are perpendicular to the skin groove, like a brush (Fig 1; dermoscopic images of all 15 cases can be seen in Supplemental Fig 1 available via Mendeley at https://data.mendeley.com/datasets/smj68n5xrt/1). Demographic and clinical data are shown in Table I. The mean age of onset was 25 months and mean width of melanonychia was 54.3% of the total nail width. Five of 15 patients had nail dystrophy (33.3%). Six cases developed LBP on hyponychium during follow-up and the remaining 9 cases already presented with hyponychial LBP at the initial visit to our clinic. The average time from onset of melanonychia to development of hyponychial LBP was 27.5 months. Irregular pattern including color variegation and inconsistency in longitudinal melanonychia was observed in all cases and globular pigmentation was observed in 6 children.

Eleven of 14 punch biopsy specimens from hyponychium with LBP showed a nested proliferation of banal melanocytes (Supplemental Fig 2). The remaining 3 biopsy specimens revealed the proliferation of solitary melanocytes predominantly along the dermoepidermal junction without atypia. One case showed some atypical cells but revealed a nested growth pattern of banal melanocytes in subsequent serial sections (Supplemental Fig 2).

Although larger studies correlating histologic findings of hyponychial LBP with those of the nail matrix in pediatric melanonychia cases are needed, the observation of benign histologic growth pattern at the hyponychial LBP supported the clinical impression of NMN in our cases. We suggest that