Insurance type, treatment, and survival outcomes in Merkel cell carcinoma: A National Cancer Database Analysis

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Introduction

- Merkel cell carcinoma (MCC) is a rare, aggressive skin cancer with metastatic potential. The relationship between insurance status and clinical outcomes in MCC patients is unclear.
- This study aimed to evaluate the association between insurance type on the presentation, treatment, and survival probability of patients with MCC.

Methods

The National Cancer Database was retrospectively analyzed for patients diagnosed with MCC from 2016 to 2020. Differences in disease stage at diagnosis, treatment, and survival were analyzed. Binomial test was performed for categorical variables and ANOVA was performed for continuous. Survival differences were examined with Cox proportional hazards models and Kaplan-Meier curves.

Results

Table 1 Demographics

	Total, N = 9742	
	No.	%
Age, groups		
≤ 29	17	0.2
30-49	152	1.6
50-69	2727	28.0
70-89	6183	63.5
≥ 90	663	6.8
Sex		
Female	3504	36.0
Male	6238	64.0
Race		
White	9335	95.8
Black	159	1.6
Asian/ Pacific Islander	26	0.3
Other	150	1.5
Unknown	72	0.7
Insurance status		
Medicaid	146	1.5
Medicare/Other government	7519	77.2
Private Insurance	1914	19.7
Not insured	68	0.7
Unknown	95	1.0

- Of the 9742 patients identified, the majority of patients had Medicare (77.9%), followed by private insurance (19.8%), Medicaid (1.5%), and no insurance (0.7%).
- Compared to private insurance holders, uninsured patients and those on Medicaid had a 1.24 times higher risk of presenting with advanced stage III or IV MCC (95% CI 1.03 - 1.51 and 1.08-1.42, respectively).
- Uninsured patients were more likely to have a Charlson-Deyo score ≥3 (5.9% vs 4.7%, $p < 0.05$), indicating the presence of more comorbidities, than private insurance patients.
- Regarding treatment, 95.97% of patients received some form of intervention. Of these, 38.1% underwent surgery, 36.8% had radiation and surgery, 11.6% received immunotherapy in combination with another therapy, and 4.9% received radiation alone.
- Uninsured patients were more likely to not receive any treatment in comparison to privately insured patients (5.88% vs 3.13%, $p < 0.001$).
- When surgery was administered, private insurance patients were more often treated with Mohs surgery than uninsured patients (3.78% vs 1.47%, $p < 0.001$).
- Further, uninsured patients had higher rates of major amputations than those on private insurance (1.47% vs 0.37%, $p < 0.001$).
- Survival probabilities for uninsured patients were markedly worse at 1 year (90.54% vs 77.05%, $p<0.01$), 3 years (77.86% vs 57.73%, $p<0.001$), and 5 years (67.79% vs 26.24%, $p<0.001$) than for those with private insurance.

Figure 1 Survival Curve

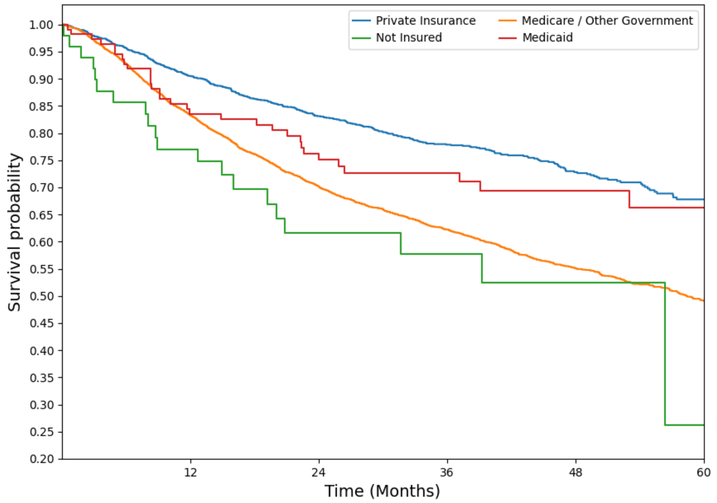

Figure 1 Kaplan-Meier model results for differences in survival by insurance status in Merkel cell carcinoma patients (N=9742)

Conclusion

Uninsured patients with Merkel cell carcinoma present with more advanced disease, receive less optimal treatment, and exhibit lower survival rates compared to their privately insured counterparts.