

Trends in Facial Cutaneous Melanoma Incidence, Stage, and Management in Los Angeles County: Three Decades of Insight

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INTRODUCTION

- Melanoma represents 65% of skin cancer deaths.^{1,2}
- Facial cutaneous melanoma (FCM) is particularly concerning due to its more aggressive presentation, worse prognosis, and lower survival.^{3,4}
- Minority patients are often overlooked in melanoma's clinical assessment and original investigation with an unfortunate resultant impact on survival outcomes.^{5,6}
- Temporal changes in incidence, diagnosis, and management of FCM are poorly monitored and represent a gap in the literature.
- Given its high ultraviolet (UV) exposure and predominantly minority population, Los Angeles County (LAC) offers unique opportunities to better understand FCM incidence burden and stage at diagnosis among diverse populations.^{7,8}
- We sought to use the Surveillance, Epidemiology, and End Results (SEER) database to examine trends in melanoma incidence, presentation, and treatment in LAC and identify factors associated with later FCM stage at diagnosis.

METHODS

- Study Design:** Retrospective cohort analysis
 - Setting:** LAC registry of the SEER database.
 - Participants:** Adult patients 18 years or older diagnosed with facial cutaneous melanoma from January 1, 1988, to December 31, 2018.
 - Measures:** Demographic, socioeconomic, clinical, and treatment data were collected.
- Statistical Analysis**
- Descriptive statistics were performed to characterize our cohort.
 - Multivariable logistic regression was used to examine factors associated with advanced stage at diagnosis, defined as regional or distant spread at presentation.
 - Joinpoint analysis was used to assess significant temporal changes in annual percent change (APC).
 - Significance was set at $p < 0.05$ and is indicated by an asterisk (*) on joinpoint regression figures.

RESULTS

Table 1. Demographic/clinical characteristics (n=7,263).

Characteristic	n (%)
Age at Diagnosis (Mean, SD)	67.23 (16.90)
Sex	
Male	5239 (72.3)
Female	2013 (27.7)
Race/Ethnicity	
Non-Hispanic White	6356 (87.6)
Non-Hispanic Black	32 (0.4)
Hispanic	562 (7.7)
Asian American/Pacific Islander	53 (0.7)
Other/Unknown	251 (3.5)
Marital Status	
Not Married	2232 (36.0)
Married	3970 (64.0)
Socioeconomic Quintile	
Lowest	527 (7.3)
Lower-Middle	828 (11.5)
Middle	1231 (17.2)
Upper-Middle	1939 (27.0)
Highest	2650 (36.9)
Insurance Status	
None	111 (2.0)
Private	2657 (48.1)
Medicaid	135 (2.4)
Medicare	2302 (41.7)
Other	321 (5.8)
Stage at Diagnosis	
Localized	6047 (87.1)
Regional	706 (10.2)
Distant	188 (2.7)
Treatment Modality	
Surgery	6538 (90.1)
Radiation	6772 (97.3)
Chemotherapy	439 (6.09)
Immunotherapy	214 (3.0)

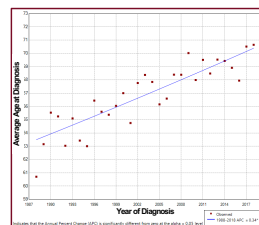


Figure 1. Joinpoint regression of average age at FCM diagnosis.

- Average age at diagnosis increased significantly from 1987-2017.
- We also found an increased proportion of patients presenting with Medicare insurance over time.

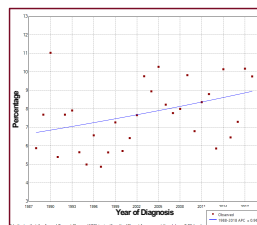


Figure 2. Joinpoint regression of percentage of Hispanic FCM patients.

- The percentage of FCM patients of Hispanic ethnicity increased significantly from 1987-2017.
- There was no change in the proportion of other minority patients.

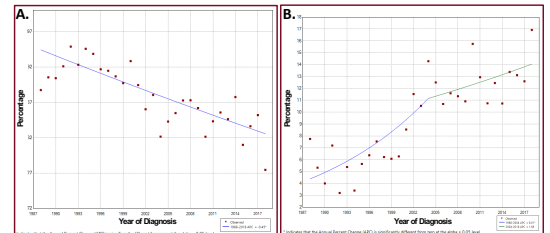


Figure 3. Stage over time. (A) Local. (B) Regional.

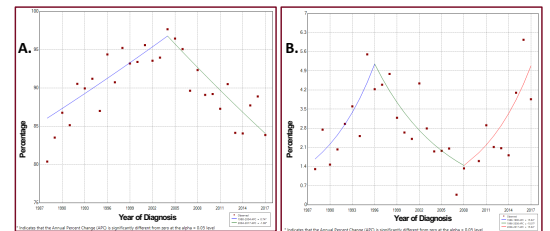


Figure 4. Treatment over time. (A) Surgery (B) Immunotherapy.

Table 2. Factors associated with advanced stage at presentation.

Characteristic	Odds Ratio	95% CI	p-value
Sex			
Male	—	—	—
Female	0.66	[0.54 – 0.80]	<0.001
Race/Ethnicity			
Non-Hispanic White	—	—	—
Asian	2.55	[1.15 – 5.25]	0.015
Married	0.78	[0.66 – 0.92]	0.004
Insurance Status			
Uninsured	—	—	—
Private	0.46	[0.28 – 0.79]	0.003
Medicare	0.58	[0.35 – 1.01]	0.047
Other	0.45	[0.25 – 0.84]	0.010
Year of Diagnosis	1.04	[1.03 – 1.05]	<0.001

CONCLUSIONS

- Over time, facial cutaneous melanoma has become increasingly more common among older, Hispanic patients
- In a multivariable linear regression model, Asian patients were significantly more likely to present with advanced disease
- Staging trends may stem from the advent of SLNB in 1990s
- Treatment trends may stem from inclusion of cytokine therapy as immunotherapy and inconclusive evidence regarding the survival benefit of elective dissection in later studies
- Minority disparities represent a key area requiring facial cutaneous melanoma intervention.

