

IMPACT OF DERMATOLOGY ACCESS IN RURAL MELANOMA DETECTION



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BACKGROUND

55,500 deaths worldwide are attributed to cutaneous melanoma each year. Mortality depends on early detection. Melanomas diagnosed at an early stage often have an excellent prognosis. Higher rates of mortality are seen in areas with limited access to dermatology due to detection of melanoma at a later stage.

This retrospective study evaluated the impact of a new dermatologist taking over a rural private practice on the detection of melanoma. We hypothesized the three-year total number of new melanoma diagnoses would be higher after September 2017, compared to prior, because patients had increased access to a dermatologist. Our secondary hypothesis was the Breslow depth of primary melanomas would be shallower secondary to earlier detection.

METHODS

- A retrospective electronic medical record (EMR) review was conducted on all diagnoses of melanoma from September 1, 2014, through September 1, 2020.
- Patients with a primary diagnosis of melanoma, ages 18 and older, were included in the study. Recurrent melanoma cases were excluded.
- Data collected included patient demographic information, Breslow depth, ulceration status, and AJCC (American Joint Committee on Cancer) stage.
- The Mann-Whitney U test was conducted to compare the median Breslow depth. Total number of primary melanoma diagnoses were calculated before and after 9/1/2017. Metastatic melanomas were excluded from statistical analysis of Breslow depth. The Fisher exact test was performed comparing stage of melanoma before and after 9/1/2017.

RESULTS

	09/01/2014 – 09/01/2017 (N= 73)	09/01/2017 – 09/01-2020 (N=212)
Stage 0 (in situ)	58.1% (43)	70.4% (150)
Stage 1	31.1% (23)	23.0% (49)
Stage 2	4.1% (3)	3.8% (8)
Stage 3	2.7% (2)	0.5% (1)
Stage 4	2.7% (2)	1.9% (4)

Patients (N=287) were identified with primary cutaneous melanoma from 2014-2020. Of these, 73 were diagnosed prior to September 2017, and 212 were diagnosed after. There was a statistically significant difference in the median Breslow depth before and after September 1, 2017 (p=0.01). A difference was not found in the percentage of in situ melanomas before and after 9/1/2017 (58.1 vs 70.4%; p=0.1; N = 193).



DISCUSSION

Our results show a decrease in melanoma depth at time of diagnosis in a single practice after a new provider increased access for new patients.

Limitations to our study include use of a single practice and a small sample size. Further research is needed to demonstrate whether increasing access to dermatology care improves early diagnosis of melanoma in rural communities.

CONCLUSIONS

The difference in Breslow depths and number of diagnoses exemplifies the importance of dermatology access in the early detection of melanoma, with better prognoses and patient outcomes. In the coming years, it is projected that the rates and number of melanoma diagnoses will increase due to behavior changes and high levels of UV radiation exposure. Melanoma cases and deaths can be prevented by integrating public health measures that target primary prevention and early detection.