SHORT COMMUNICATION

Self-detected Melanomas are Thicker Regardless of Patient's Complexity: A Retrospective Analysis

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A higher burden of melanoma is associated with greater Breslow thickness, which, in turn, is linked to delayed suspicion in a definite proportion of cases. In many cases, melanoma is diagnosed by chance during a routine dermatological examination, but, in some cases, the concerning lesion is identified by the patient or their partner. Nevertheless, having numerous moles or benign lesions, such as seborrhoeic keratosis, as well as significant skin freckling, represents a significant limitation for the early self-detection of melanoma, especially in elderly people. The rate of self-detection of melanoma and, hence, the benefit provided by active surveillance based on patient complexity rather than the number of moles, has rarely been addressed in the literature.

This study retrospectively analysed 344 consecutive patients followed for melanoma at our institution (Division of Dermatology, "Santa Chiara" hospital, Trento) between March and June 2022, to test the hypothesis that systematic skin checks may provide unhelpful additional value in the early detection of melanoma (i.e. Breslow thickness ≤ 1 mm) among patients with minimal limitations to self-examination due to their simple phenotype, as described below.

MATERIALS AND METHODS

After signing informed consent, patient demographics (sex, age, and marital status) were recorded. Information on melanoma diagnosis (Breslow depth, melanoma detection by a dermatologist vs a non-dermatologist, visibility of the melanoma, and the frequency and timing of dermatological examinations prior to the patient receiving a melanoma diagnosis) for each patient was also documented. For analysis, patients with no previous dermatological examinations were grouped with those patients who had a previous dermatological evaluation >3 years prior to the melanoma diagnosis. To reduce recall bias, this information was cross-checked with the patient's electronic health records, which hold patient data since 2012. The categorization of patients as either simple or complex was determined by physicians through a comprehensive evaluation of various factors that collectively contribute to make it difficult for the patient to promptly identify a potentially concerning skin lesion. Such factors included a high overall count of moles (>10), excessive freckling and sun spots (i.e. not limited to the upper back), or an unusually high number of seborrhoeic keratoses (>10). A Breslow thickness ≤1 mm vs >1 mm, and whether a dermatological examination was performed within 3 years of a melanoma diagnosis was compared among the variables for demonstrating statistically significant associations. Multivariate logistic regression analysis was used to assess the variable contribution in predicting a Breslow thickness >1 mm. Data were analysed with IBM SPSS Statistics 21 (IBM SPSS Statistics for Windows, version 21.0 (released 2012); IBM Corp., Armonk, NY, USA). A p-value <0.05 indicated a statistically significant difference.

RESULTS

The baseline characteristics of the study population (N = 344) are reported in Table SI.

Considering factors associated with having or not having a dermatological pre-diagnosis examination, it was found that older patients, those presenting with a Breslow thickness >1 mm, and patients classified as simple (as described above) were significantly associated with never having had a dermatological pre-diagnosis examination (Table SII). In contrast, a Breslow thickness >1 mm was significantly associated with a higher proportion of patients with a suspicious lesion noted by a non-dermatologist and having never had a previous dermatological pre-diagnosis examination (Table SIII).

Logistic regression was performed to ascertain the effects of age, sex, having had a dermatological pre-diagnosis examination, patient complexity, number of moles, person who detected the melanoma, and visibility of the lesion on the likelihood that participants had a Breslow depth >1 mm. Having never been examined by a dermatologist (odds ratio 2.2; 95% confidence interval (95% CI) 1.3–3.7; p < 0.003) and suspicious lesion noted by a non-dermatologist (odds ratio 3.2; 95% confidence interval 1.6–6.1; p < 0.001) were the only variables associated with an increased likelihood of having a Breslow thickness >1 mm, all other factors being equal (Table SIV).

DISCUSSION

Regular skin examinations are thought to have the potential to reduce morbidity by enabling earlier detection of melanoma, because the prognosis is closely linked to the Breslow thickness of the lesion at the time of diagnosis. Nevertheless, current guidelines advise against general population screening for skin cancer. Patient skin self-examination (SSE) with opportunistic screening is the current standard for skin cancer screening for avoiding overdiagnosis of thin lesions. This study tested the hypothesis that patients with fewer moles have inherent self-confidence in monitoring moles, thereby self detecting melanoma at an early stage (i.e. Breslow thickness ≤ 1 mm).

This study showed that self-detection of melanomas in the Province of Trento was ineffective in identifying melanomas at an early, curable stage even among patients with a simple phenotype. The findings support the need to recommend regular dermatological skin examinations (DSE), at least every 3 years to achieve timely detection among the patients accessing our healthcare services.

A previous study (1) reported similar results, although patient complexity was not considered. The study was conducted in Queensland, Australia, where people are more aware of the importance of seeking early medical attention for suspicious lesions. Moreover, while Australian general practitioners have clear recommendations for opportunistic screening (2), primary care physicians in Italy lack such guidelines. Also, the planned time for a DSE at our institution is 15 min, whereas structured SSE skills training intervention requires > 30 min (3). A possible explanation for these results is that neither dermatologists nor general practitioners educate patients about SSE (i.e. self-deteced melanomas are thicker compared to those noticed by dermatologists, even among patients with a simple phenotype).

It has also been suggested that the potential increase in morbidity and costs associated with overdiagnosis of thin lesions due to regular DSE, could be outweighed by the reduction in melanoma burden, given a genuine increase in the incidence of melanoma (4), such as reported in our district (5).

In the current study self-detected melanomas were thicker than previously reported (6); whereas previous Italian (7) and German studies (8) detected no difference in melanoma thickness between self-detected and non-self-detected cases, highlighting the existence of heterogeneity in proficient early melanoma self-detection.

This study emphasizes the need to enhance the current melanoma detection model in our community, since, at our institution, the percentage of thick melanomas was 36%, which is higher than the figures previously reported at Parma (24%) and Meldola (12%) (9). Patients with intermediate thickness melanoma receive sentinel lymph node biopsy and intensive follow-up, resulting in increased cost and morbidity. These costs are expected to increase as the use of neo-adjuvant and adjuvant settings increases (10). This finding suggests that a lower proportion of thick melanomas should be set as a goal, in order to reduce substantial healthcare system financial costs in addition to patient morbidity.

Furthermore, regular audit of outcomes at the referral centre, rather than studies involving different populations and healthcare organizations, should provide feedback to guide recommendations on the timing of DSE.

The authors have no conflicts of interest to declare

REFERENCES

1. Olsen CM, Pandeya N, Thompson BS, Dusingize JC, Green AC, Neale RE, et al. Physician skin checks before the diagnosis of melanoma correlate with tumor characteristics. J Invest Dermatol 2018; 138: 2288–2291
2. The Royal Australian College of General Practitioners. Guidelines for preventive activities in general practice. 9th edn. [accessed 2022 Nov18]. Available from: https://www.racgp.org.au/download/Documents/Guidelines/Redbook9/17048-Red-Book-9th-Edition.pdf.
3. Robinson JK, Wayne JD, Martini MC, Hultgren BA, Mallett KA, Turrisi R. Early detection of new melanomas by patients with melanoma and their partners using a structured skin self-examination skills training intervention: a randomized clinical trial. JAMA Dermatol 2016; 152: 979–985
4. Paiva ML, Weinstock MA. Melanoma overdiagnosis is not the key problem. JAMA Dermatol 2022; 158: 1082–1083
5. Bucchi L, Mancini S, Zamagni F, Crocetti E, Dal Maso L, Ferretti S et al. Patient presentation, skin biopsy utilization and cutaneous malignant melanoma incidence and mortality in northern Italy: trends and correlations. J Eur Acad Dermatol Venereol 2023; 37: 293–302.
6. Avilés-Izquierdo JA, Molina-López I, Rodríguez-Lomba E, Marquez-Rodas I, Suarez-Fernandez R, Lazaro-Ochaita P. Who detects melanoma? Impact of detection patterns on characteristics and prognosis of patients with melanoma. J Am Acad Dermatol 2016; 75: 967–974.
7. Carli P, De Giorgi V, Palli D, Maurichi A, Mulas P, Orlandi C, et al. Self-detected cutaneous melanomas in Italian patients. Clin Exp Dermatol 2004; 29: 593–596.
8. Baumert J, Plewig G, Volkenandt M, Schmid-Wendtner MH. Factors associated with a high tumour thickness in patients with melanoma. Br J Dermatol 2007; 156: 938–944.
9. Pagliarello C, Magi S, Mazzoni L, Stanganelli I. Proportion of thick versus thin melanomas as a benchmarking tool. J Clin Med 2021; 10: 5545.
10. Long GV, Luke JJ, Khattak MA, de la Cruz Merino L, Del Vecchio M, Rutkowski P, et al. Pembrolizumab versus placebo as adjuvant therapy in resected stage IIB or IIC melanoma (KEYNOTE-716): distant metastasis-free survival results of a multicentre, double-blind, randomised, phase 3 trial. Lancet Oncol 2022; 23: 1378–1388.