Prognostic features for acral lentiginous melanoma

In this issue of the *BJD*, Teramoto et al. make an important contribution to our knowledge of the prognostic factors associated with acral lentiginous melanoma (ALM). They used data from 2050 patients recorded in the Central Malignant Melanoma Registry of the German Society of Dermatology over a 32-year period, representing the largest cohort of patients with ALM reported to date. ALM is found on peripheral body parts, such as fingers, palms, soles and nail beds; for this analysis they excluded ALM that was recorded on sites other than the hands or feet, as a quality-control measure.

In populations of European origin where melanoma incidence is highest, ALM is one of the least common cutaneous melanoma histological subtypes, accounting for < 10% of cases. However, among people with more heavily pigmented skin, who experience lower melanoma incidence rates, ALM may account for up to 50% of cases of melanoma. The actual incidence rates of ALM are similar for all ethnicities, because unlike other types of cutaneous melanoma, the aetiology of ALM is largely unrelated to sun exposure. The pathogenesis of ALM remains largely unknown, although injury to the site or mechanical stress may play a role. Whole-genome sequencing has shown that the development of ALM is driven by structural changes and mutation signatures of unknown aetiology.

Compared with other histological subtypes of cutaneous melanoma, ALM is typically detected at a relatively late stage and has a poor prognosis. Prognostication for melanoma is based on the American Joint Committee on Cancer (AJCC) stage of disease, which incorporates data on Breslow thickness, ulceration, mitoses, lymph node involvement and metastases. The recently published 8th edition of the AJCC staging system does not distinguish between different histological subtypes, and specifies that the same staging criteria should be used for melanomas with any growth pattern. However, because the aetiology of ALM is distinct from that of other histological subtypes, it is possible that its prognostic factors also differ, which Teramoto and colleagues sought to investigate.

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In a multivariate analysis, Teramoto et al. identified age, ulceration, tumour thickness and tumour spread at diagnosis as independent prognostic factors. Sex, naevus association, level of invasion, location of tumour, regression and Clark level were not independently associated with prognosis after accounting for the other factors. Because ulceration, tumour thickness and tumour spread are consistent with the AJCC staging system, the authors conclude that the relatively poor prognosis associated with ALM most probably derives from the delay in diagnosis compared with other histological subtypes. This conclusion is consistent with an analysis of 1413 cases of ALM from the population-based Surveillance, Epidemiology, and End Results (SEER) programme in the U.S.A., which found that ALM thickness and stage correlated with survival and explained the differences in survival observed by sex and for different racial groups.

There may be other prognostic indicators for ALM that were not considered in this German study. For example, Teramoto and colleagues point out that mitotic rate, microsatellites, vascular invasion and pigmentation of the primary lesion have been reported as significant prognostic factors in previous, smaller studies. The authors were limited to the factors that were recorded in the melanoma registry, and they also had to contend with significant amounts of missing data for factors such as ulceration, regression and naevus association.

Internationally, there are significant efforts to investigate whether other factors, such as molecular subtypes, immune profile, DNA methylation and gene expression signatures might identify more biologically aggressive primary melanoma tumours. The future challenge will be to evaluate these biomarkers in a sufficiently large sample of ALM, given its low incidence. In the meantime, this study by Teramoto and colleagues gives us confidence that patients diagnosed with ALM can be given the same prognostic advice as for other histological subtypes of cutaneous melanoma, based on the AJCC staging system.

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References

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