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LETTER TO THE EDITOR

Sentinel lymph node biopsy may no longer be a critical component of melanoma management

Dear Editor,

We thank Faries and colleagues[1] for their comments.[1,2] They argue mixing data from two different online platforms to estimate survival outcome and nodal metastasis risk is problematic, because the platforms are based on different populations. Both large populations consist of melanoma patients, similar baseline demographics and variables; hence, they are comparable.

Fairies[1] point to the discrepancy between the LifeMath.net and Melanoma Institute of Australia (MIA) algorithms in predicting sentinel lymph node positivity (SLNB+) with probabilities varying in our examples. This may partly be owing to the MIA algorithm incorporating statistically insignificant variables, (mitoses and lymphovascular invasion) while excluding the important tumour site variable, included by LifeMath.net.[3]

Faries[1] report that Lifemath prediction of SLNB+ for a 20 years old with a 0.4-mm ulcerated melanoma is 6%, half the risk we used. Our published figure 4b[2] presents 15-year melanoma specific mortality rate (MSMR) for a patient with a Breslow 0.4 mm superficial spreading melanoma on the trunk with no lymphovascular invasion or mitoses.[2] SLNB+ data were derived from the MIA nomogram (https://www.melanomarisk.org.au/SNLForm). This practice was uniformly adopted because MSMR data were only available in Lifemath.[3] The SLNB+ result for the given patient is 12% using the MIA tool, but 6.1% when using the http://www.lifemath.net/cancer/melanoma/nodal/index.php tool. Our 12% estimate is based on Lo et al.[4]

Faries[1] assert that '*extrapolation of predictions for such uncommon situations to 1000 hypothetical patients implies precision that is not supported by the underlying data*'. We disagree. The extrapolation presents an easy to interpret result for journal readership. There is no decreased precision. It is reporting exactly the same results.

In their figure 1,[1] Fairies visualize our table 1. The dots do not align. The under 40-year-old population apparently differs from the remainder. The purpose of analysing the Tübingen-data in our study was to determine whether the hazard ratio (HR) for death in SLNB+ patients is different at different age points. We then used those HRs to further manage/scrutinize the data from El-Sharouni's publication.[5] Based on identified HRs, our table 2 details that 2.6% of low-risk young people who are SLNB+ will die of melanoma. These young people have a >10% SLNB+ risk and hence will be encouraged to undertake SLNB based on Lo/MIA recommendations.

Faries state that '*a patient's understanding of their individual risk of recurrence or death is only possible when their nodal status is known*'. They argue that without SLNB, one cannot differentiate between a 6.7% MSMR for SLNB-negative patients <40 years and a 24% MSMR for those SLNB+. We disagree. BAUSSS biomarker effectively discriminates between patients, while SLNB adds only negligibly to BAUSSS.

We are surprised that Faries still advocate that SLNB has intrinsic therapeutic benefit. The Multicenter Selective Lymphadenectomy Trial (MSLT-1) clearly showed that long-term overall survival is not altered by SLNB.[6] Completion lymphadenectomy in MSLT-2 SLNB+ patients offers no long term survival benefit.[7]

Faries[1] insist that young patients with thin melanomas should be offered SLNB, arguing that young people with very low risk of death can still benefit from SLNB status knowledge. That is suggesting that if a patient has a 2% MSMR, we could perform SLNB to further refine whether their MSMR is closer to 1.7% or 4.4%.

To date, such small incremental changes are unlikely to be of clinical significance. What is known, however, are the inherent risks of surgery and costs associated with these procedures. Thus, there seem to be no obvious benefits of SLNB in this cohort, but rather risks for the individual patient, and increased costs for the healthcare system.[2]

In conclusion, we encourage prognostic models for melanoma to consolidate around the BAUSSS biomarker.

AUTHOR CONTRIBUTIONS

All work on this manuscript was undertaken entirely voluntarily by all researchers.

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None.

CONFLICT OF INTEREST STATEMENT

No author declares a conflict of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are openly available through Lifemath at [http://www.lifemath.net/cancer/

] together with findings published by: El Sharouni et al.[5] and Lo et al.[4] SLNB positivity risk data is publicly available at www.melanomarisk.org.

ETHICS STATEMENT

Not applicable.

Athanassios Kyrgidis[1]
Anthony J. Dixon[2]
Michael Sladden[3]
Howard K. Steinman[4]
Christos C. Zouboulis[5]
Aimilios Lallas[1]
Samantha Schneider[2]
Harvey Smith[6]
Alexander Nirenberg[2]
Caterina Longo[7,8]
Giuseppe Argenziano[9]
Catalin Popescu[10]
Thrasyvoulos Tzellos[11]
Stuart Anderson[12]
J. Meirion Thomas[13]

[1]*Aristotle University of Thessaloniki, Thessaloniki, Greece*
[2]*Australasian College of Cutaneous Oncology, Docklands, Victoria, Australia*
[3]*University of Tasmania, Launceston, Australia*
[4]*Campbell University, Buies Creek, North Carolina, USA*
[5]*Department of Dermatology, Venereology, Allergology and Immunology, Staedtisches Klinikum Dessau, Brandenburg Medical School Theodor Fontane, Dessau, Germany*
[6]*Oxford Dermatology, Perth, Western Australia, Australia*
[7]*Department of Dermatology, University of Modena and Reggio Emilia, Modena, Italy*
[8]*Azienda Unità Sanitaria Locale – IRCCS di Reggio Emilia, Skin Cancer Center, Reggio Emilia, Italy*
[9]*Dermatology Unit, University of Campania L. Vanvitelli, Caserta, Italy*
[10]*Carol Davila University of Medicine and Pharmacy, Bucharest, Romania*
[11]*Institute of Clinical Medicine, The Arctic University of Norway, Tromsø, Norway*
[12]*Maffra Medical Centre, Maffra, Victoria, Australia*
[13]*Formerly of Royal Marsden Hospital, London, UK*

Correspondence
Anthony J. Dixon, Australasian College of Cutaneous Oncology, 1101/5 Caravel Lane, Docklands, VIC 3008, Australia.
Email: anthony@acco.edu.au

ORCID

Athanassios Kyrgidis https://orcid.org/0000-0003-3896-0309
Anthony J. Dixon https://orcid.org/0000-0001-8071-7199
Michael Sladden https://orcid.org/0000-0001-7281-2444
Howard K. Steinman https://orcid.org/0000-0002-0333-2882
Christos C. Zouboulis https://orcid.org/0000-0003-1646-2608
Aimilios Lallas https://orcid.org/0000-0002-7193-0964
Harvey Smith https://orcid.org/0000-0002-9433-6212
Alexander Nirenberg https://orcid.org/0000-0001-8645-5388
Caterina Longo https://orcid.org/0000-0002-8218-3896
Giuseppe Argenziano https://orcid.org/0000-0003-1413-8214
Catalin Popescu https://orcid.org/0000-0003-2986-6935
Thrasyvoulos Tzellos https://orcid.org/0000-0003-2356-0847
J. Meirion Thomas https://orcid.org/0000-0003-0950-5235

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