Epidemiology of Cutaneous Malignant Melanoma in Western Sweden

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On December 15, 2016, dermatologist Magdalena Claeson defended her PhD thesis in the Arvid Carlsson lecture hall of the University of Gothenburg. Professor Chris Anderson, Linköping, acted as the faculty opponent. Dr Claeson started the public defence with a presentation of the thesis, in front of an audience of around 60 fellow dermatologists and researchers. A thorough questioning by the opponent, the examining committee and the audience pointed out strengths and shortcomings of the thesis in an interesting dialogue.

The incidence of cutaneous malignant melanoma (melanoma) has been rising worldwide for the past decades. The overall aim for this thesis was to study the epidemiology of melanoma in Western Sweden and to suggest secondary preventive interventions.

In study I, data from the Swedish Cancer Registry demonstrated that the melanoma incidence in Western Sweden quadrupled among men and tripled among women between 1970–2007. Coastal areas and the city of Gothenburg showed a higher incidence than inland areas. Analysis of meteorological maps of Western Sweden and a sun exposure survey showed that this could be due to high annual mean duration of sunshine and high sun exposure on holidays abroad. In studies II and III, data from the Swedish Melanoma Registry and the Swedish Cause of Death Registry were analysed. Study II showed that, during 1990–2013, 7.4% of all melanoma patients developed multiple primary melanomas. Subsequent melanomas presented with a higher proportion of melanoma *in situ*. Study III demonstrated that thin melanomas (≤1 mm Breslow) constituted 55.2% of all invasive melanomas and accounted for 14.7% of all melanoma deaths, between 1990-2014. Significantly poorer survival was identified for ulcerated melanomas 0.26–1 mm Breslow and for non-ulcerated melanomas 0.76–1 mm Breslow. In study IV, a system dynamics computer model was developed that projected the number of future melanoma cases. The model compared 5 plausible future scenarios, showing that after 10 years, improved overall secondary prevention would have resulted in a shift towards thinner melanomas.

Fig. 2. Marstrand, Western Sweden

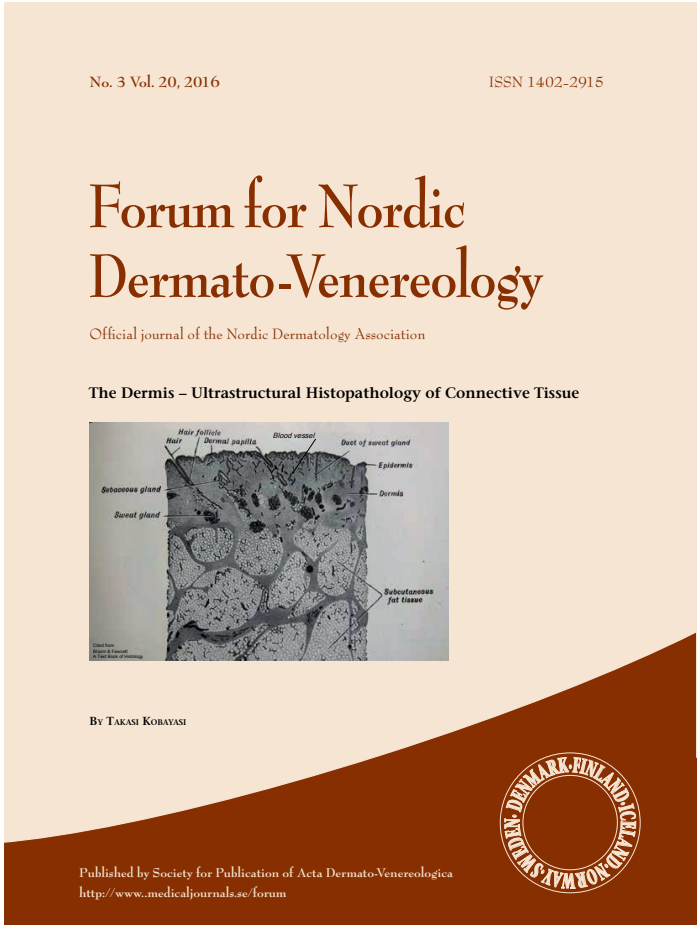
Fig. 1. Happy faces – after the examining committee announced that the respondent passed the public defence. *Left to right*: Professor Chris Anderson, Linköping University (faculty opponent), Dr. Magdalena Claeson (respondent), Associate Professor John Paoli (supervisor).

This thesis concluded that the high incidence of melanoma in Western Sweden justifies a focus on preventive interventions to this area. Patients and physicians need to be alerted about the risk of multiple primary melanomas. The identified subgroup of lethal thin melanomas suggests that these patients may benefit from closer surveillance in follow-up programmes. Lastly, system dynamics modelling proved to be a valuable tool, which can help policymakers select the preventive interventions with the greatest impact.

An e-publication of the PhD thesis can be found under the following link: http://hdl.handle.net/2077/47402.

List of original publications

1. Claeson M, Andersson EM, Wallin M, Wastensson G, Wennberg AM, Paoli J, Gonzalez H. Incidence of cutaneous melanoma in Western Sweden, 1970–2007. Melanoma Res 2012; 22: 392–398.
2. Claeson M, Holmström P, Hallberg S, Gillstedt M, Gonzalez H, Wennberg AM, Paoli J. Multiple primary melanomas: a common occurrence in Western Sweden. Acta Derm Venereol 2016 Dec 13, epub ahead of print.
3. Claeson M, Gillstedt M, Whiteman DC, Paoli J. Lethal melanomas: a population-based registry study in Western Sweden from 1990–2014. Submitted.
4. Claeson M, Hallberg S, Holmström P, Wennberg AM, Gonzalez H, Paoli J. Modelling the future: System dynamics in the cutaneous malignant melanoma care pathway. Acta Derm Venereol.2016; 96: 181–185.



This special issue of Forum for Nordic Dermato-Venereology (168 pages) can be ordered from the Editorial office at a cost of 30 euros (agneta@medicaljournals.se). The online version is available at https://www.medicaljournals.se/forum/?page=issue&volume=21&issue=3.

From the content: This paper reports the research for the ultrastructural histopathology of dermis, based on more than 200 studies, published, presented and unpublished, performed during the period 1962–2008 in the Section for Ultrastructural Histopathology in the Connective Tissue Research Laboratories Department of Dermato-venerology, University of Copenhagen, Rigshospital and Bispebjerg Hospital, Copenhagen, Denmark. The material for these studies included more than 4,000 specimens of various dermatoses. ...