

Skin Cancer Research Review

Making Education Easy

Issue 1 – 2008

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Welcome to the first edition of **Skin Cancer Research Review**, a unique Australian publication bringing you some of the most important research from around the world every month.

Skin Cancer Research Review has been established to make life easier for the dermatology community in Australia. Every month 10,000 scientific publications are printed worldwide containing a multitude of new studies, many devoted entirely to Dermatology. In short, keeping up is hard and requires significant time to screen out what is irrelevant to your practice or country. We aim to save you time by identifying what's important so you can spend more time doing what you're best at.

The Review is a summary of what we think are some of the most significant new papers, plus local commentary on why they are important and how they can potentially affect practice. Selection and review of the trials is carried out by Dr H. Peter Soyer, Professor of Dermatology at the University of Queensland. The Review also provides website links to the abstract or fully published papers so you can make your own judgements.

If you have friends or colleagues within Australia who would like to receive our publication, send us their contact email and we will include them for the next issue. We hope you find this first edition stimulating reading and welcome your comments and feedback.

Kind regards,

Dr H. Peter Soyer

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Does surface preparation alter ALA uptake in superficial non-melanoma skin cancer *in vivo*?

Authors: Moseley H et al

Summary: Fluorescence was recorded from accumulated protoporphyrin IX to determine the effects of surface preparation on the local uptake of aminolaevulinic acid (ALA) in 16 lesions (superficial basal cell carcinoma or Bowen's disease). Each lesion half was assigned to either no surface preparation or surface preparation (gentle curettage or abrasion with a spatula). The ratio of fluorescence after incubation to that before incubation was 6.1 in the non-prepared section and 6.8 in the prepared section. No significant differences were observed between curettage and abrasion, or between prepared and unprepared halves of the lesion 12 months after photodynamic therapy.

Comment: This study evaluated the influence of surface preparation in 16 superficial non-melanoma skin cancers with photodynamic therapy in regard to the ratio of fluorescence before and after incubation with ALA, and in regard to the clinical assessment 12 months following treatment. These outcome measurements revealed no significant differences between the prepared and unprepared lesions. However, due to the small number of lesions studied, it is not anticipated that the results will affect the commonly performed surface preparation in superficial non-melanoma skin cancer before application of ALA.

<http://dx.doi.org/10.1111/j.1600-0781.2008.00338.x>

Reference: *Photodermatol Photoimmunol Photomed.* 2008;24:72-5

Which of these is a melanoma?



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Deaths from non-melanoma skin cancer in Western Australia

Authors: Girschik J et al

Summary: Histology reports for 368 deaths coded as non-melanoma skin cancer (NMSC) by the Western Australian Cancer Registry from 1996 through 2005 were investigated for coding accuracy, their characteristics and the potential for prevention. Only three NMSC deaths were misclassified. An additional 53 deaths contained inadequate information to confirm NMSC as the cause of death. The majority of NMSC deaths were due to squamous cell carcinoma (SCC; n=219), 53 to Merkel cell carcinomas, and 40 to other skin cancers. Cases were mainly males and were elderly. Most of the primary squamous and Merkel cell carcinomas were associated with significant sun exposure (face, ears, and hands, and scalp in males).

Comment: The most interesting finding of this study is the high percentage of deaths from Merkel cell carcinoma, as the confirmed deaths from SCC were 219 and the confirmed deaths from Merkel cell carcinoma were 53, thus representing nearly 25% of the deaths from SCC. Worth mentioning also is the fact that both neoplasms were situated on areas of maximum sun exposure in older men, a finding well known for SCC but not yet so well elaborated for Merkel cell carcinoma.

<http://dx.doi.org/10.1007/s10552-008-9150-9>

Reference: *Cancer Causes Control*. 2008 Apr 2 [Epub ahead of print]

A population-based study of skin cancer incidence and prevalence in renal transplant recipients

Authors: Moloney FJ et al

Summary: The incidence, trends and patterns associated with postrenal transplant skin cancers were assessed using data from the national renal transplant database and the national cancer registry in Ireland (1 January 1994 to 31 December 2001). The risk of skin cancer increased steadily in older (≥ 50 years) renal transplant recipients (RTRs) from year 2 post-transplant; the increased risk in younger RTRs (age < 50 years) was 200 times the risk for an age-matched nontransplanted population by year 6 post-transplant. The number of nonmelanoma skin cancers (NMSCs) registered in RTRs accounted for 1% of all NMSCs registered nationally over the study period. Standardised incidence rates for invasive NMSC and *in situ* carcinoma of the skin were significantly increased ($p < 0.05$). Risks of invasive squamous cell carcinoma, malignant melanoma and Kaposi sarcoma were increased relative to the nontransplanted population.

Comment: This well-designed and succinctly summarised population-based study of skin cancer incidence and prevalence in renal transplant recipients in Ireland highlights a relevant public health trend worldwide. It is emphasised that in the future, dermatologists will play a significant role as an integral part of a highly specialised interdisciplinary team, in order to reverse this trend. Australia, due to the high number of transplant patients and its specific geographical situation, will have the opportunity to act as a trendsetter.

<http://dx.doi.org/10.1111/j.1365-2133.2005.07021.x>

Reference: *Br J Dermatol*. 2008;154:498-504

Detection of second primary cutaneous melanomas

Authors: Francken AB et al

Summary: 112 patients with a recently diagnosed second primary melanoma (SPM) were interviewed to determine who identified their first primary melanoma (FPM) and SPM (*in situ* or invasive). Patients detected 59% of the FPMs and 46% of the SPMs. In multivariate analyses, female gender, greater Breslow tumour thickness and younger age were significant predictors for a patient-detected FPM (odds ratios: 4.9, 3.2, and 0.9, respectively). Greater tumour thickness and ready visibility of the lesion to the patient were predicting factors for patient detection of a SPM (odds ratios: 1.9 and 3.6, respectively).

Comment: Remarkably, in persons with primary melanomas, the ability to detect new or thinner second primary melanomas by themselves is not increased, as evidenced by the results of this study. It remains to be shown by a prospective randomised intervention study that total body photography and comprehensive digital dermoscopy with serial monitoring of all relevant lesions represents the most efficient approach for dealing with this high-risk group.

<http://dx.doi.org/10.1016/j.ejso.2007.06.004>

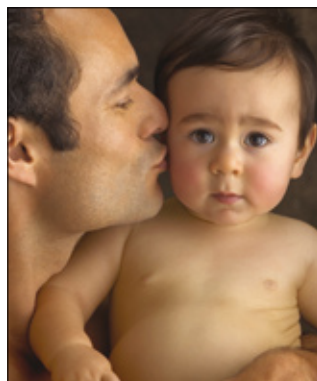
Reference: *Eur J Surg Oncol*. 2008;34:587-92

Independent commentary by Dr H. Peter Soyer, Professor of Dermatology at the University of Queensland, President of the International Dermoscopy Society and President of the International Society of Teledermatology.

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Time required for a complete skin examination with and without dermoscopy: a prospective, randomized multi-center study

Authors: Zalaudek I et al

Summary: These researchers determined the median time (measured in seconds) needed to perform a complete skin examination (CSE) with and without dermoscopy and according to total cutaneous lesion count time, in 1328 patients with at least 1 melanocytic or nonmelanocytic skin lesion. The median time needed for CSE without dermoscopy was 70 seconds, while the use of dermoscopy increased the duration of CSE to 142 seconds; this increase was in direct proportion to the patient's total lesion count. In contrast, the time required to perform a CSE without dermoscopy remained the same, irrespective of lesion number.

Comment: This recent prospective, randomised, multicentre study revealed that a thorough complete skin examination requires less than 3 minutes. The additional use of dermoscopes needs only a median time of 72 seconds within this 3 minute time slot. Obviously, the time required to obtain the patient's medical history, have the patient undress for the examination, contemplate the findings, and provide an assessment and management plan were not recorded. As this study has been carried out by dermatologists with a special interest in skin cancer, it remains to be seen whether less experienced physicians would achieve the same results in terms of average time needed for screening. Suffice to say that knowledge and expertise in dermoscopy is a prerequisite for assessing skin lesions accurately with this nowadays omnipresent optical device.

<http://archderm.ama-assn.org/cgi/content/abstract/144/4/509>

Reference: *Arch Dermatol.* 2008;144:509-13

Melanoma markers in marathon runners: increase with sun exposure and physical strain

Authors: Richtiga E et al

Summary: 150 marathon runners were questioned about melanoma risk factors, types of sportswear and training programmes, and the number of lentigines and nevi on the left shoulder and the left buttock were counted in each participant. The mean number of lentigines on the left shoulder was 19.6, whereas no lentigines were found on the left buttock. Similarly, higher numbers of nevi were seen on the left shoulder. Lifetime sunburn history and type of sportswear correlated with the number of lentigines, while runners with higher heart rates while training, higher training velocities and higher physical strain indexes had significantly more nevi on the shoulder than the other runners.

Comment: In this study of 150 marathon runners, lifetime sunburn history and type of sportswear correlated, as expected, with the number of lentigines on the left (!) shoulder. Remarkable, however, was the demonstrated impact of training parameters related to physical strain on the number of nevi, again measured on the left shoulder. The easiest, and perhaps scientifically correct assumption, is that the latter association cannot be explained by this study design and the relatively low number of marathon runners. Australia probably is the best place in the world to validate or negate the hypothesis that high physical strain leads to an increase in melanoma markers in marathon runners or in long-endurance athletes such as triathletes.

<http://dx.doi.org/10.1159/000121473>

Reference: *Dermatology.* 2008;217:38-44

Melanoma diagnosis: Australian dermatologists' number needed to treat

Authors: Chia ALK et al

Summary: Melanoma clinical diagnoses were retrospectively compared with histological diagnoses, for a group of 35 Australian dermatologists. Over one year, 195/686 clinically suspicious lesions were histologically confirmed as melanoma, resulting in a number needed to treat of 4 for histological referrals for melanoma. After accounting for all lesions that were possibly clinically suspicious of melanoma, the sensitivity for melanoma diagnosis was 89.1%.

Comment: In recent years, the number needed to treat (NNT) for one histopathologically diagnosed melanoma has been widely accepted as one of the most relevant outcome measurements for assessing the efficacy of diagnosing melanoma. The NNT of 4 derived from this study can serve as a point of reference for both clinical practice and future studies. As mentioned by the authors, one disadvantage of their audit is its retrospective nature.

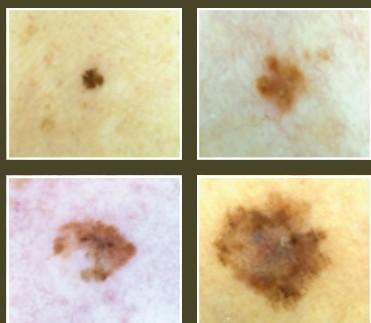
<http://www.blackwell-synergy.com/doi/pdf/10.1111/j.1440-0960.2007.00410.x>

Reference: *Australas J Dermatol.* 2008;49:12-15

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Space-time clustering and seasonality in diagnosing skin cancers in Wallonia (south-east Belgium)

Authors: Quatresooz P et al

Summary: This 6-year study investigated whether the number of diagnosed cases of primary cutaneous cancers, particularly malignant melanomas and basal cell carcinomas (BCC), fluctuates during specific periods of the year in Wallonia (south-east Belgium). For both malignant melanomas and BCC, late spring/early summer and mid-autumn were the periods of highest diagnosis prevalence, irrespective of gender. Similar seasonal variations were also found in non-neoplastic controls consisting of laboratory samplings of onychomycoses and non-infectious onychodystrophies.

Comment: Again, a retrospective study over a time period of 6 years, performed with thought-provoking findings. Belgian dermatologists report for both melanomas and basal cell carcinomas periods of highest diagnosis prevalence irrespective of gender in late spring/early summer and mid-autumn. The authors suggest, quite rightly in the eyes of the reviewer, unspecific seasonality to be responsible for this space-time clustering phenomenon in "sun-related" skin cancers.

<http://dx.doi.org/10.1159/000121853>

Reference: *Dermatology*. 2008;217:48-51

Desmoplastic melanoma: the role of radiotherapy in improving local control

Authors: Foote MC et al

Summary: This study retrospectively analysed data from 24 patients with histopathologically confirmed desmoplastic melanoma who had received surgical excision as initial treatment followed by postoperative radiotherapy. The median tumour thickness was 5.2 mm. The histopathological margin was <10 mm in 17 (71%) of patients. The 3-year in-field relapse-free survival was 91% and the 3-year relapse-free survival was 86%, with a 3-year overall survival of 83%.

Comment: This straightforward retrospective study on 24 patients with desmoplastic melanoma, with a median tumour thickness of 5.2 mm, showed that adjuvant radiotherapy may have been effective in reducing the rate of local recurrence after surgical resection. Although the level of evidence of this study is only level IV, the reviewer would definitely like to recommend adjuvant radiotherapy to his patients with desmoplastic melanomas.

<http://dx.doi.org/10.1111/j.1445-2197.2008.04436.x>

Reference: *ANZ J Surg*. 2008;78:273-6

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Disclaimer: This publication is not intended as a replacement for regular medical education but to assist in the process. The reviews are a summarised interpretation of the published study and reflect the opinion of the writer rather than those of the research group or scientific journal. It is suggested readers review the full trial data before forming a final conclusion on its merits.

Thick melanoma: the problem continues

Authors: Tejera-Vaquerizo A et al

Summary: These researchers analysed the trends in the distribution of melanomas, mainly according to their thickness, in 459 lesions stratified according to year of diagnosis (1990–96 and 1997–2005), sex, age in years (0–49, ≥50), thickness (0–0.99, 1.00–1.99, and ≥2 mm) and histological subtype. While the number of new cases rose by 92% between the two study periods, the number of new cases of thick melanoma remained almost constant, being associated with persons aged >50 years (65.1% vs 64.3%), with men accounting for half of the cases (48.4% vs 47%). A high proportion of nodular melanomas was observed within the group of thick melanomas in both periods (36.5% and 39.3%, respectively).

Comment: Another study showing the well known fact that the diagnosis of thick melanomas has remained constant, mainly in persons over the age 50 years, with a relative increase in men. A helpful tool to identify clinically innocent appearing melanomas is the "EFG" rule (E – Elevated; F – Firm to touch; G – Growing progressively over more than a month) set forth by A. Prof. John W. Kelly in 2004, who stated that "Our best chance to help the public distinguish nodular melanoma from benign lesions is to emphasise progressive and persistent change over a period long enough to allow resolution of inflammatory lesions (about a month). The "G" in the EFG acronym ("growing progressively for more than a month") is of primary importance."

<http://dx.doi.org/10.1111/j.1468-3083.2007.02517.x>

Reference: *J Eur Acad Dermatol Venereol*. 2008;2:575-9

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