Dermatology Conference Review

Summmarising Significant Global Medicine IDS World Congress, Naples 2006

In this issue:

Welcome

to Dermatology Conference Review, a unique summary of some of the most exciting research presented at the World Congress of the International Dermoscopy Society (IDS) held in Naples, Italy in April 2006.

IDS is a society focused on the use of dermoscopy and other diagnostic tools to enable the early detection and prevention of melanoma. As the focus of medicine has moved towards prevention, dermoscopy has become popular and is now used by dermatologists all over the world. Significant studies have shown that for experienced users Dermoscopy can now be more accurate than clinical examination (Bafounta et al. and Kittler et al.).

The World Congress explored the use of Dermoscopy in isolation and in combination with other approaches including clinical examination, total body photography and computer algorithm based 'electronic second opinions'. This continues to be an interesting and quickly developing area exploring which combination of these methods are complimentary and have the greatest ability to reduce rates of false negatives.

This independent Review has been created to allow those unable to attend, but with a keen professional interest in the area, to access a summary of some of the most significant clinical studies presented. In the ever expanding world of research, it is increasingly difficult to keep abreast of developments in the field so the Review provides a summary of the key research likely to affect medical practice.

The creation of this publication would not have been possible without support from our sponsor and to them we give our thanks. I trust you find the conference review stimulating and look forward to your feedback.

Kind Regards,

Dr Shaun Holt
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Introducing the reviewers:

Associate Professor Amanda Oakley is a specialist Dermatologist based in Hamilton, New Zealand. She is the Clinical Director of the Department of Dermatology at Health Waikato and is an Honorary Clinical Associate Professor at Waikato Clinical School (University of Auckland School of Medicine).

Associate Professor John Kelly is the Head of the Victorian Melanoma Service in Melbourne, Australia. He is also Clinical Associate Professor and Head of the Dermatology Unit at the Monash University Department of Medicine.

Dr Martin Haskett is a Dermatologist at the Victorian Melanoma Unit at Alfred Hospital in Melbourne, Australia. He also operates a successful private Dermatology practice in Melbourne.

Dermoscopy in 2025

Author: Argenziano, G.

Summary: The increasing use of dermoscopy as an effective tool in the successful diagnosis of cutaneous disease is discussed in this paper. The author refers to the vast number of publications in this area over the past few years as an example of how this procedure is becoming an established technique in the dermatology field. Its use in the diagnosis of melanoma is of particular note, although it is proposed that its role in diagnosing other skin conditions will also increase. The author speculates that over the next few years the technique will become increasingly common-place, with improved technology allowing for whole-body imaging, a better understanding of nevus and melanoma pathology and a resultant reduction in melanoma mortality.

Comment: The large attendance at this congress (over 400 participants), the increasing number of papers published in the field of dermoscopy, and the expanding base of technologies available, suggests that dermoscopy can now be regarded as proven in a clinical role for the management of pigmented lesions. By the year 2025 we can expect that dermoscopy will be the standard of care. To achieve this, however, we will have to increase our teaching of this discipline to our residents even to the extent that a formal qualification may need to be developed to demonstrate competency.

Basic Dermoscopy

Author: Stolz, W.

Summary: Up to 90% of "equivocal pigmented lesions" can be successfully diagnosed using the following step-wise approach to dermoscopy according to the author of this paper. Identification of specific features (pigmented network, pigmented aggregated globules, branched streaks) suggest the lesion to be melanocytic. The occurrence of further characteristics is then used to differentiate blue nevus, seborrheic keratoses, haemangioma, angiokeratoma and pigmented basal cell carcinoma. The remaining undiagnosed pigmented lesions are then assessed for specific markers of melanoma including colour, asymmetry and pigment pattern. The author further recommends the use of "modified pattern analysis, the seven point check list of Argenziano or Menzies's rule" as additional useful tools in the diagnosis of melanoma.

Comment: Stolz, in his original and widely adopted algorithm, proposed A-asymmetry, B-borders, C-colours and D-dermoscopic structures with various weighting on each of these criteria to develop an overall score. His current experience is that the B-borders criterion had a much lower contribution and that perhaps this can be left out of the algorithm. This could be quite important for our clinical judgement as we have observed that a large number of benign pigmented lesions have irregular borders and excluding this criterion may allow us to concentrate on the more important ACD aspects.

Advanced Dermoscopy: The German Experience

Author: Kreusch, J.F.

Summary: Detection of early melanoma can be restricted by inappropriate screening methods according to the author of this paper. Standard methods for detection of melanoma can involve use of algorithms or clinical identification of suspect lesions. However, these may fail to identify early lesions where clinical changes are not yet apparent. The author refers to his preferred method of using non-selective methods to detect early lesions and states that during a 6 year period the melanomas detected using this screening method differed markedly from those reported from hospital data.

Comment: This paper is relevant to all Australasian dermatologists and general practitioners who practice in a primary care situation, versus the situation in Germany where a lot of melanoma is treated within academic hospital departments. Dr Kreusch emphasised that, unless we are prepared to attune ourselves to thinking about the features of melanoma at the earliest stage, as well as being prepared to image a very large number of lesions on each patient, dermoscopy may not serve us well. Whilst the algorithms and clinical features which had been developed over the years have served their purpose, in order to "advance" our dermoscopic skills, we must be looking for the earliest lesions, which may not fit the existing algorithms. It is clear that when we are seeing large numbers of patients with minimal disease, we need to look at the much more subtle features of lesions, and will only achieve this by looking at large numbers of lesions.

For more information, please go to http://eventiecorsi.ecm33.it/cont/2710/

Total Body Photography and Detection of Change

Author: Grichnik, J.M.

Summary: The author of this paper provides an overview of two different techniques – dermoscopic follow up and total body photography, for tracking changes in skin lesions. Total body photography allows for the bulk of the skin surface to be monitored for changes over time, but does not allow for precise monitoring of specific lesions. Dermoscopic follow up is highly effective at detecting microscopic changes in specific areas of concern but requires the medical practitioner to accurately detect suspect lesions initially. The author also raises the importance of correctly distinguishing between normal growth in nevi and changes that may indicate an abnormal pathological process.

Total Body Photography

Author: Marghoob, A.A.

Summary: A combination of sequential whole body photography, patient history and dermoscopy is an effective method of successfully diagnosing melanoma in high risk patients according to the author of this paper. Dermoscopy alone is limited by the need to pre-select suspect lesions, which can be difficult with amelanotic or 'featureless' melanoma. The use of total body photography allows early identification of skin changes or new lesions which can then be subject to follow up by dermoscopy. The author proposes that this method of management reduces the need for biopsy whilst maintaining confidence in the detection of melanoma.

Comments: Total body photography serves us well in detecting new lesions or major changes in the clinical appearance of pre-existing lesions. New digital technologies available for rapidly recording many lesions at the dermoscopic level further enhances our ability to detect more subtle changes or to short-term monitor those lesions that showed clinical change. Our patients are also a valuable resource for us to use as research has shown that 50% of melanomas are identified by the patients themselves. In summary, patient history, total body photographs and digital dermoscopy complement each other to help identify and differentiate early stage "featureless" melanoma from benign lesions.

When a Lesion Should be Monitored or Excised

Author: Kittler, H.

Summary: The standard practise for excision of melanocytic lesions has generally relied on that lesion having a gross pathological appearance or dermoscopic profile consistent with melanoma. However, the author highlights that some melanomas (e.g. incipient melanoma) do not typically present with findings that would initially indicate excision. Pathological changes may not become apparent in this type of lesion until the disease has progressed. The author advocates the use of sequential dermoscopic imaging as a way of improving detection of these types of melanoma at an early stage.

Comment: Early melanoma often lacks asymmetry and other diagnostic clinical and dermoscopic features. It may appear identical to a benign melanocytic naevus and is very difficult for even an expert dermoscopist to identify. The best chance to identify early melanoma is by sequential digital dermoscopic monitoring and assessment by skilled dermoscopists who can recognise and excise lesions that show changes associated with the development of melanoma. This requires recording of the many lesions that are not overly suspicious at the time of the initial consultation and not just the grossly suspicious lesions that should probably be excised in any case.

False Negatives: Hints not to miss Melanoma

Author: Puig, S.

Summary: Approximately 5-10% of melanomas were reported as false negatives by dermoscopy according to this paper. These false negative results were broadly characterised as melanomas that lacked distinct features, melanomas that resembled non-melanocytic lesions, and melanomas that resembled benign melanocytic pro-liferations. The author suggests a strategy to avoid such false-negative results which incorporate the patient's observations regarding changes in the lesion, pathological changes (including colour, presence of vessels or spitzoid pattern) and digital dermoscopy. The author further pro-poses a diagnostic and management plan be implemented according to the clinical and dermoscopic profile of the lesion under assessment.

Comment: This paper considered the problem of examining difficult lesions that do not fit classic dermoscopic patterns. There are melanomas that lack any specific feature, some that simulate non melanocytic lesions such as seborrhoeic keratosis, and some that simulate benign melanocytic pro-liferation such as Spitz nevus. The points made included the fact that the clinical history remains highly relevant at all times, and that unusual features which do not allow a firm diagnosis to be made should always raise the suspicion that the lesion may be melanoma.

Pink Lesions: Not only Amelanotic Melanoma

Author: Kreusch, J.F.

Summary: This paper recommends the use of dermoscopy to visualise tumour vascularisation as an aid in the diagnosis of melanoma. Whereas melanoma may present as dark coloured lesions red, brown or pink lesions may also indicate the presence of melanoma. These lesions are typically difficult to diagnose. The author reports that the vascularity of lesions varies according to the type of lesion and that pink and hypopigmented lesions can be differentiated according to their vascular pattern. The use of dermoscopy can therefore provide a non-invasive method of diagnosis for lesions of this type.

Comment: Standard clinical and dermoscopic criteria often fail to identify amelanotic melanoma, which may appear innocent or resemble other pink skin lesions. Recently, specific vascular dermoscopic patterns for "featureless" lesions have been characterised. Recognition of these patterns by practitioners of dermoscopy requires continuing education and literature review. Armed with these new tools, skilled dermoscopy practitioners can achieve earlier diagnosis and avoid unnecessary biopsy on an extended range of lesions.

Nodular and Amelanotic Melanoma

Author: Menzies, S.W.

Summary: An overview of the dermoscopic features of nodular and hypopigmented melanoma is presented in this paper. The author reports that nodular melanoma generally does not exhibit radial growth or regression as is seen in other superficial spreading melanomas. It also doesn't resemble thin melanoma but does exhibit some of the characteristics of thick melanoma including "bluewhite veil, multiple colours and atypical vascular patterns". Dermoscopic characteristics associated with hypopigmented melanoma lesions include "dotted vessels". The occurrence of milky red globules or areas, linear irregular vessels or a combination of dotted and irregular vessels is reported to be diagnostic for hypopigmented melanoma. Further study data are to be made available.

Comment: As this presenter highlighted, for this class of melanoma, there are not the same range of algorithms or models as those currently applied to superficial spreading melanoma and as such the reliance on dermoscopic analysis of lesions alone is quite risky. Often the clinical view of the lesion within the patient's overall pattern of lesions will assist in the diagnosis, but most importantly the history of the lesion from the patient will give the greatest indication that there is a lesion of concern. These types of melanoma are the ones that catch out the inexperienced practitioner or the rule-based machine diagnosed systems the most.

Does Dermoscopy Save Lives?

Author: Soyer, H.P.

Summary: The process for detecting and diagnosing skin lesions is discussed in this paper. The author highlights the need for increased self-examination, early dermatological review of all suspect lesions and pre-biopsy investigation by one of the non-invasive techniques currently available such as dermoscopy, confocal laser scanning microsopy or optical coherence tomography. The author also comments on the paucity of information surrounding these procedures and makes reference to two earlier meta-analyses. In these studies dermoscopy was shown to be more effective at detecting melanoma than clinical examination alone. However, no data were presented in these analyses to show how useful this technique was in diagnosing other lesions. The author concludes that clinical examination in conjunction with dermoscopy should remain the standard method of diagnosis but that further investigations should be performed to demonstrate whether dermoscopy actually reduces mortality.

Comment: Dr Soyer is the President of the International Dermoscopy Society. He encourages dermatologists and other physicians to screen all their patients for melanoma by careful whole-body clinical and dermoscopic examination. He described several published reports with data proving the improved diagnostic accuracy of dermoscopy over standard clinical examination for suspicious skin lesions, especially when conducted by experienced examiners. Translating this into hard scientific evidence that dermoscopy can save lives is difficult as such a study would require a cohort of patients that had no intervention and were allowed to proceed through to death. For the time being the inference is that increased diagnostic accuracy associated with dermoscopy should identify more melanomas or melanomas at an earlier stage that in turn should reduce the number of melanomas developing into the invasive and life threatening stage.

Patients with Multiple Lesions

Author: Kittler, H.

Summary: The excision of a suspicious melanocytic skin lesion after result of gross inspection or dermoscopic examination is a strategy used by some to rule out melanoma according to the author. However, when patients have many, sometimes hundreds of lesions, it is impossible to excise them all. These patients need regular skin examinations. The optimal surveillance strategy is still under debate but follow-up with digital dermoscopy could be a valuable alternative. The indication for this follow-up should be considered carefully, and risks considered including the risk of missing a melanoma at the initial visit or the risk of non-compliance of the patient.

Comment: These two papers addressed the very common, but difficult situation of patients with multiple lesions that create concern on macroscopic inspection. The authors showed images which strongly suggest follow-up using Digital Dermoscopy can be successful by providing comparative images to the clinician. Digital Dermoscopy offers the best available strategy at the current time for these patients, as it helps avoid the clearly unacceptable practice of excising everything which looks irregular on a single point of time examination.

They drew attention to the fact that there are risks associated with this strategy. By allowing people to defer a decision to excise a lesion, there is a risk that a melanoma may not be identified at the initial visit. The potential risk of the patient not returning for follow-up was also emphasised.

Risk Management of Melanocytic Skin Lesions in Patients with Multiple Lesions

Author: Stolz, W.

Summary: Computer-aided follow-up investigations have become widely acceptable particularly in patients with multiple pigmented lesions. Recent studies demonstrate specific morphologic changes can be defined as indicators for malignant transformation. The Vienna group recently described a subset of melanomas, which can be only recognised by morphological changes over time in follow-up images. The author concludes follow-up images are an essential tool for the optimisation of care in patients with multiple melanocytic skin lesions.

Comment: *please refer to Comment info in adjacent study 'Patients with Multiple Lesions'.*

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