

# QML PATHOLOGY

newsletter july 06

## >> Clinicopathologic Correlation: Common Dermatoses A Series of Case Studies

**Dr Rohan Mortimore, Dermatopathologist**

The following cases have been selected as good examples of dermatoses that are commonly encountered in General Practice. In these cases biopsy findings play an integral part in establishing the diagnosis. The following article begins with the history and photographs of the clinical and histologic appearances of all three cases. This allows the reader to establish a provisional diagnosis before each case is outlined with a final diagnosis and brief discussion on the case.

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## >> Clinicopathologic Correlation: Common Dermatoses

Dr Rohan Mortimore, Dermatopathologist

**Case 1:** This thirty-four year old woman presented with a six month history of a rash on the dorsum of the hand [fig1] and thigh. Typical histology for this condition is illustrated [fig2].

**Case 2:** This forty year old woman presented with a pruritic rash on the hands of four years duration [fig3]. Typical histologic findings are illustrated [fig4].

**Case 3:** A twenty-seven year old woman presented with a six month history of a rash on the neck and upper back [fig5]. Characteristic histologic features are illustrated [fig6].

### Discussion Case 1: Granuloma annulare [GA]

GA is a dermatosis of unknown aetiology that presents in 70% of cases before the patient is 30 years of age. It is often more common in females and diabetic patients. Classical lesions consist of small papules arranged in an enlarging 1-5cm ring on the dorsum of the feet, hands and on the extensor surfaces of the limbs [see fig 1]. Histologically there are necrobiotic and/or interstitial dermal granulomas with increased interstitial mucin. Fig 2 shows a typical necrobiotic granuloma. Although lesions of GA persist for months, 75% will resolve without scarring within two years. Topical and intralesional corticosteroids can be used as local treatment measures.

### Discussion Case 2: Lichen Planus [LP]

LP is a symmetrical pruritic papulosquamous disorder presenting most commonly in patients between 30 and 60 years of age. It is slightly more common in females. The lesions [see fig 3] are characteristically flat-topped, violaceous polygonal papules with white lines [Wickham's Striae] that cross the surface. Typical lesion sites are the flexor surfaces of the wrists, extensor surfaces of the hands and ankles, the lumbar region and the glans penis. Oral lesions occur in up to 60% of cases. Figure 4 illustrates the hyperkeratosis, wedge shaped hypergranulosis and the lichenoid reaction with a band-like upper dermal inflammatory infiltrate typically seen in this condition. LP usually resolves over a variable time course, from weeks to years. Topical corticosteroids and oral antihistamines for pruritus can be employed. Systemic treatments are only required in severe cases.

### Discussion Case 3:

#### Discoid Lupus Erythematosus [DLE]

DLE is 2-3 times more common in females with a peak onset in the fourth decade. The lesions [fig 5] are usually well demarcated and demonstrate erythema, scaling, follicular plugging, depigmentation, atrophy and scarring. Photo-exacerbation occurs in most patients. DLE may be localised [restricted to the head and neck] or widespread [also involving other sites]. Histologically [fig 6] there is follicular keratotic plugging, a lichenoid reaction which extends to involve follicular epithelium and superficial and deep dermal inflammation. While a

positive lupus band test on direct immunofluorescence can be of assistance, it is rarely necessary. Overall only 5-10% of patients with DLE will develop SLE. The risk is probably higher in patients with widespread DLE. Sunscreens and topical corticosteroids are first line treatments for DLE.

### Acknowledgement

I would like to thank the Dermatologists Dr Peta McLaran and Dr Khaiyuen Choong for providing the clinical photographs and histories.



fig1

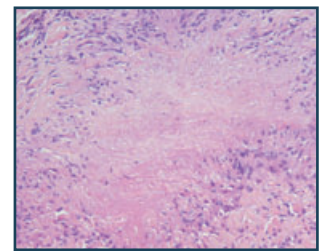


fig2



fig3

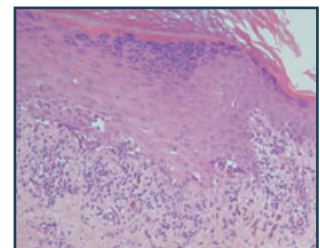


fig4

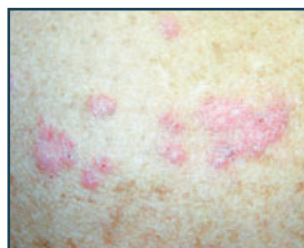


fig5

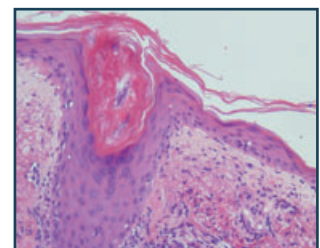


fig6

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## >> Essentials of the Melanoma Report

Dr Nicholas Mellick, Consultant Histopathologist

Australia has the highest rate of melanoma in the world among males, and the second highest among females. Recent statistics indicate that in Australia 1 in 25 men and 1 in 35 women will have a melanoma in their lifetime. Queensland has by far the highest incidence of melanoma, with 74.0 new male cases and 51.5 new female cases diagnosed per 100 000 population per year. As a tumour with the most malignant potential per unit volume of any human neoplasm, useful parameters to predict prognosis are of great interest to treating clinicians and their patients.

In this regard, interpretation of the significance of the key prognostic variables in the standard pathology report on malignant melanoma assumes paramount importance. However, which of these are the *most* important and reliable? There is a vast amount of accumulated data and ongoing debate in medical literature with reference to this question. This very brief overview will attempt to present a few of the more common ones, how they are generated and why they are felt to be significant.

### Histologic type of melanoma

Since the 1970s melanomas have been histologically subclassified into four major groups: superficial spreading, lentigo maligna, acral lentiginous and nodular melanoma. However, the significance of this division remains a controversial subject. Some observers believe that the different survival rates merely reflect the thickness and anatomic level of invasion at the time of initial diagnosis, rather than true differences in biology. Certainly the significance of histologic type is diminished in multivariate analysis. Consequently, some pathologists believe that mention of the histogenetic type of melanoma should be considered optional. An exception to this is in cases of desmoplastic or neurotropic melanoma, in which wider excision should be performed.

### Anatomic compartment of invasion (the 'Clark level')

These are defined as follows:

- Level I: melanoma in situ. Malignant melanocytes are confined to the epidermis
- Level II: infiltration of the upper part of the papillary dermis
- Level III: melanoma cells fill and expand the papillary dermis, abutting the papillary/reticular dermal interface
- Level IV: infiltration of the reticular dermis
- Level V: infiltration of the subcutis

It has been argued that the Clark level is somewhat redundant given that the measured Breslow thickness (described below) proves to be a more powerful prognostic indicator in most studies. However, for thin melanomas ( $\leq 1.00$  mm thickness) the Clark level retains an important role, second only to

ulceration in this setting. These findings are reflected in the fact that the Clark level is no longer included in the revised AJCC staging system, except in cases of thin (T1) tumours.

### Thickness (Breslow)

After decades of research and observation, tumour thickness (i.e. the vertical span as measured from the top edge of the granular layer to the deepest intradermal group of melanoma cells) has emerged as THE most powerful overall predictor of lymph node metastasis and survival in primary cutaneous melanoma. While certain "cut-offs" associated with particular survival rates were propounded in the past, in reality thickness is a continuous variable given sufficient follow-up. Whereas tumours  $\leq 0.75$  mm thick have a survival of 97.9% at 10 years, in contrast there is roughly a 40% 10-year survival rate for tumours over 4.0 mm thick. The implications of the thickness are immediately apparent.

### Mitotic Rate

In 2003, a large study by Scolyer et al. from the Sydney Melanoma Unit indicated the mitotic rate was the most statistically powerful prognosticator of survival after thickness. This is given as a number of mitoses per square millimetre to ensure consistency and reproducibility when using different microscopes. In Clark's original work on mitotic activity, 0 vs 1-6 vs  $>6$  mitoses/mm<sup>2</sup> were the break-points of analysis. The findings of several studies indicate that ANY mitotic activity implies a worse prognosis, and this tends to worsen further with increasing counts. One group has shown a 10-year metastatic rate in men with a vertical growth phase melanoma of 31% when a mitotic rate of greater than 0 was identified, vs a 4% mortality rate when the mitotic rate was 0.

### Ulceration

This has been shown to be a powerful independent predictor of local recurrence and metastasis, most probably because it reflects rapidity of tumour growth. While it is a very reproducible finding, it is only relevant when it is non-traumatic in nature. As an example of its significance, it has been shown that the five-year survival in Stage I-II melanomas decreased from 80 to 55% in the presence of ulceration. In addition, there is evidence that the extent of ulceration, especially if it exceeds 6 mm in diameter, also has a significant adverse bearing on prognosis. It should be noted that many workers believe that ulceration assumes even greater importance (even priority) in the setting of thin melanomas, however some studies have failed to support this finding.

### Other prognostic variables

A variety of other prognostic parameters are, or have been, used by reporting pathologists at varying times to varying degrees. While most have at one time or another been espoused as contributing significantly to prediction of patient outcome and

disease behaviour, there is still continuing debate in literature as to their true usefulness. Arguments mounted against them point to lack of reproducibility, large interobserver variation, difficulty in interpretation, conflicting outcome studies, even disagreements regarding definitions of terms. These variables include: growth phase, tumour infiltrating lymphocytes, regression, angioinvasion, microscopic satellites, DNA ploidy status and anatomic site. Continual improvements in study design and size are helping to further refine their utility.

## A word on management

When the clinician has the final report in hand outlining the variables as stated above, how is he or she to proceed? In general, treatment of primary cutaneous melanoma should follow the Clinical Practice Guidelines for the Management of Cutaneous Melanoma - developed by the Australian Cancer Network and the National Health and Medical Research Council. In brief, they are as follows:

1. (pTis) Melanoma in situ – margin 5mm
2. (pT1, pT2) Melanoma 0 - 1.5mm thick – margin 1cm
3. (pT3) Melanoma 1.5 - 4.0mm thick – minimum margin 1cm, maximum margin 2cm
4. (pT4) Melanoma > 4.0mm thick – minimum margin 2cm, maximum margin 3cm

These margins may have to be modified in individual circumstances and particular anatomic locations, such as near the eye. In such cases, referral to specialist practitioners may be considered prudent. Lesions excised for biopsy with a margin less than the recommendations should be re-excised to achieve these margins as soon as possible after the preliminary biopsy excision. The depth of excision should equal the minimum excision margin where possible, but in no instance is it necessary to excise beyond the deep fascia.

A special mention should be made of desmoplastic melanoma. Due to the high incidence of perineural invasion and local recurrence in this particular variant (as well as frequent amelanosis and poorly defined clinical borders), it is considered reasonable to add 1cm to the excision margins recommended for other types of melanoma. In addition, it is recommended that these patients be referred for specialist management and consideration of radiotherapy.

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Dr Rohan Mortimore joined QML Pathology in November 2002. Dr Mortimore graduated from the University of Queensland in 1992 (MBBS Hons). He went on to train in anatomical pathology at the Royal Brisbane and Prince Charles Hospitals, attaining his fellowship in 1999.

Dr Mortimore subsequently worked in private pathology developing an interest in dermatopathology. He is an author in the recently published World Health Organisation Classification of Skin Tumours.



**Dr Nick Mellick**  
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Dr Nick Mellick graduated with a MBBS from The University of Queensland, during which time he obtained the AMA Memorial Prize in Medicine. Commencing as a Pathology Registrar at John Hunter Hospital, he returned to take up a training position at the Princess Alexandra Hospital in 2002.

In 2003 Dr Mellick joined QML Pathology as a registrar in Anatomical Pathology, gaining his fellowship in 2006. Dr Mellick has a special interest in Dermatopathology.

## Management of Women with Abnormal Cytology

### Understanding New Guidelines

New guidelines for the management of women with abnormal Pap Smears will come into effect sometime during 2006. These guidelines are the culmination of a long review process which commenced in 2001 and concluded in 2005 after they were endorsed by the NHMRC.

For your reference, the most important changes to note are:

- New terminology for reporting of Pap Smears
- More conservative treatment of low-grade squamous lesions
- Treatment not required for CIN 1
- All glandular abnormalities require colposcopy
- HPV testing as a test of cure following treatment of HGSIL

In line with the above, QML Pathology Pap Smear reports will begin appearing in the new format during August. This will include the use of new terminology and new guidelines for patient management. If you have any queries please contact our Cytology Department on (07) 3121 4009.

# QML happenings july 06

## Celebrating a Strong History and Hopeful Future

### New Central Laboratory Officially Opened

On Friday 2nd June QML Pathology celebrated its past, present and future aspirations. After years of planning and preparation, QML Pathology 'officially' opened our new Central Laboratory at Murarrie, Brisbane. Joined by the Premier of Queensland, the Hon Peter Beattie, the family of our founding fathers – Dr's Duhig and Gutteridge, and some of the original QML partners, the opening was an occasion fitting of such a momentous point in our history.

As a part of the ceremony, a time capsule was established to be opened by the management and staff of QML Pathology in 20 years time. The capsule was designed to commemorate the 80 year history of QML Pathology and celebrate our hopes for the company's future. Premier Peter Beattie was among a range of people who submitted their personal reflections on healthcare and QML Pathology into the capsule. Officially closed on the day, the capsule will reside in the Laboratory's foyer until it is due to be opened in 2026.

While the 'official opening' gave us a perfect opportunity to reflect on our past, our focus remains firmly on ensuring our endeavours continue to service the needs of the medical community well into the future.



Premier Peter Beattie putting QML Pathology under the microscope with Dr Kerry DeVoss, QML Pathologist.



QML Pathology celebrates the Official Opening of their new Central Brisbane Laboratory

## QML Pathology Takes Up Permanent Residency in Bundaberg

### New Laboratory Now Operational

After much preparation, QML Pathology opened its newest laboratory in Bourbong Street, Bundaberg. The availability of localised testing services will allow us to offer a significant service to practitioners and patients in Bundaberg and its surrounding areas. This commitment continues the growth seen throughout our other centres in regional Queensland and northern New South Wales.

Servicing four collection centres and all medical practitioners across the region; the laboratory is open from 7.00am – 7.00pm Monday to Friday with an on call service at all other times. Local testing covers a range of disciplines including Haematology, Biochemistry, Coagulation and Immunohaematology. This is supported by our central laboratory, which provides a comprehensive network for more specialised testing.

The opening of our Bundaberg laboratory has been an exciting step forward for QML Pathology and our commitment to the regional community. Laboratory Manager, Chris Vohland, is available to assist with any queries or service requirements you may have on (07) 4152 8411.



Dr Andrew Montague and Katherine Montague



Valda Mitchell, Les Routledge and Dr David Whittle



Desma van Rosendal, Dr Drew Speight, Dr John Mitchell and Cathy Speight





# QML updates july 06

## Time to Change Your Speedial

New numbers for QML Pathology's Central Laboratory

At QML Pathology we are always striving to ensure our referrers can contact us should they need anything. For this reason we continue to provide a range of 'quick-glance' phone listings and stickers that you can keep close at hand. With the recent relocation of our Central Laboratory it is important that you have all our updated details at your fingertips. Some of our most important contact details have changed as follows:

General Inquiries	(07) 3121 4444
Test Results	(07) 3121 4555
Account Inquiries	(07) 3121 4580
Electronic Result Delivery	1300 738 448
<i>(email also available - <a href="mailto:edihelp@qml.com.au">edihelp@qml.com.au</a>)</i>	
Warfarin Patient Registration	1300 795 355

Referrers located in Greater Brisbane will have received an updated contact directory with this newsletter. If you require further directories, or would like some of our telephone contact stickers, please speak with your QML Pathology courier or contact your local Medical Liaison Officer.

## 21st Century Technology Making Lives Easier

### New Technologies in Warfarin Result Delivery

QML Pathology understands that warfarin therapy can greatly encroach on the life and freedom of your patients. With this in mind QML Pathology has begun implementing alternative result delivery systems for warfarin patients. Late in 2006 we will begin rolling out the following systems in a staged process:

1. SMS warfarin result via mobile phone text message
2. Dedicated phone line which delivers an automated warfarin result via touch phone and voice recognition technology

Please note: each method will have a result confirmation system. If this is not activated by the patient one of our warfarin support staff will contact the patient directly. This will also occur in the case of urgent results.

Through these systems we hope to provide a more convenient and efficient way for patients to keep track of their dosage requirements. To compliment this we are also implementing an email service which will send patients timely blood test reminders, patient newsletters and information regarding important changes to the Warfarin Control Program.

Shortly, patients on the QML Pathology Warfarin Program will be receiving letters to register their interest in these result systems. With their introduction we continue to strive for a more streamlined and effective service. If you have any question please don't hesitate to contact our staff on 1300 795 355 or email [warfarin@qml.com.au](mailto:warfarin@qml.com.au).

## New ACC's

### Newmarket

'The Newmarket' Shopping Centre  
Shop 3, Level 1, Cnr Newmarket & Enoggera Roads  
Phone: (07) 3352 3834  
Opening Hours: Mon-Fri: 7.00am-11.00am

### Coomera

Coomera Shopping Centre  
Unit 20, Cnr Yaun Street & Dreamworld Parkway  
Phone: (07) 5502 3257  
Opening Hours: Mon-Fri: 7.30am-1.00pm

### West End

Shop 3, 235 Boundary Street  
Opening Hours: Mon-Fri: 8.00am-12.30pm, 1.00pm-4.00pm

## Doctor's Noticeboard

- Dr Stephen Withers, Clinical Geneticist, wishes to announce he is now practicing at:  
Suite3, Allamanda Medical Centre  
25 Spendelove Ave, Southport  
Phone (07) 55 711 322 Fax (07) 55 281 120
- Dr Neroli Ngenda would like to advise that she has sessional rooms available at  
Suite5, McCullough Centre, 259 McCullough St, Sunnybank, at the following times: Tuesday PM, Wednesday AM/PM and Friday AM. Please call (07) 3344 1233 for further information.
- Dr Krishnan Sankunni, Renal Physician/Nephrology, is pleased to announce he has commenced private practice. Dr Sankunni's special interests are glomerulonephritis, polycystic kidney diseases and maintenance Haemodialysis. John Flynn Medical Centre  
Suite 2B, 42 Inland Dr, Tugun  
For appointments please telephone (07) 5598 9156 or fax (07) 5598 9105
- Dr Eddie Street, Oral & Maxillofacial Surgeon, would like to advise that he is relocating his practice from:  
The Headlands Specialist Centre, to his new consulting rooms as of the 21 July. Dr Street will now be located at:  
Unit 24, Level 2 Sunshine Coast Surgical & Specialist Centre, 5 Innovation Parkway, Kawana Waters, Sunshine Coast.  
For appointments please phone: 1800 681 207  
Dr Street will continue to consult at his Nambour Rooms:  
83 Blackhall Terrace, Nambour.
- Dr Nicholas Boyne, Vascular and Endovascular Surgeon, has recently commenced practice at The Wesley Hospital. Dr Boyne is experienced in all aspects of vascular surgery, specifically carotoid, aortic and lower limb salvage. He has a special interest in endovascular management of vascular disorders, including carotoid stenting and aortic stent-grafting. In addition, Dr Boyne has wide experience with renal access surgery, varicose vein surgery and management of diabetic foot problems. To arrange an appointment please phone (07) 3232 7686