Dermatology Differential Diagnosis

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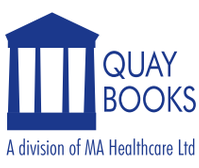

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About the Author

Dr Jean Watkins' career journey began when she qualified in medicine at the Royal Free Hospital, London, in 1955. She became a trainee in a large estate at St Paul's Cray before moving to another estate in Downham, Kent, as a partner in a general practice. By 1974, she was ready to move on to the challenge of a rapidly growing new town estate at Thamesmead.

Following an interest in photography she began to realise the value of documenting pictures of patients in teaching students and trainees. Hence she built up the collection of images that has enabled this book to be produced.

These days, Dr Watkins is retired but is an active member of the Practice Nursing Editorial Board and, in April 2004, was awarded a Fellowship of the Royal College of General Practitioners.

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I would like to thank Liam Benison for his initial help and support in setting up the series, together with his team, for the continuing help and support that has followed

Foreword

Skin problems are one of the most common reasons for people to seek help from a nurse or GP in general practice. Up to 15% of GP consultations are for skin disorders (Royal College of General Practitioners, 2007). General practice nurses have undertaken responsibility for treating skin problems for many years, but the advent of nurse prescribing has now furnished them with the power to complete dermatology consultations independently. Courtenay et al (2007) have estimated that practice nurses prescribe more often and for a wider range of dermatological products than nurses working in other healthcare settings.

As this book demonstrates, the range of skin conditions that can affect patients in primary care is great, and diagnosis and management is very often a complex matter that requires consideration of personal and family history, home, work or school environments, and a variety of possible differential diagnoses.

The typical presentation, diagnosis and treatment of common conditions such as eczema and psoriasis may be familiar to many primary care professionals, but long-term management can pose many difficult assessment decisions for the practice nurse and GP. Lesions such as melanomas must be diagnosed with particular care and urgent action taken when required. It is also important to be aware of skin lesions that might indicate any underlying conditions such as diabetes or infections that may be playing a role.

Careful attention to a patient's psychological wellbeing is also important. The discomfort and irritation of skin conditions and their social consequences can have profound effects. For example, Finlay and Coles (1995) found that 49% of patients with psoriasis were prepared to spend 2–3 hours a day on treatment if it gave them normal skin for the rest of the day.

Skin conditions are usually obvious to other people, whether to partners and family, or to everyone in a person's life, including friends, colleagues, acquaintances and strangers. They can result in embarrassment, impair intimate relationships, and provoke social ostracism and bullying from the external world. The International Study of Life with Atopic Eczema (ISOLATE) found that some people with eczema experience discrimination in the workplace (Medical News Today, 2004).

Profound internal psychological effects are prevalent, such as low self-esteem, anxiety and depression (Lewis-Jones, 2006). In a long-term condition such as eczema, the psychological impact can begin very early in life, as Sausenthaler et al (2009) have demonstrated, and last throughout life.

While some skin problems may be long lasting and require long-term treatment, the effect of others may be disfiguring and psychologically disturbing for an individual, but have no serious physical consequences. The question is then whether to treat or not. The impact and treatment of skin conditions is highly dependent on the individual and his/her social circumstances.

An array of treatment options is available for many skin problems, and treatment choice needs to be appropriate to the individual. Patient adherence may be difficult to achieve and difficult to assess where it is a matter of using quantities of topical creams, ointments and lotions rather than a simple pill. Moreover, the relapsing pattern of long-term skin conditions is hard to predict and often difficult to treat when flare-ups occur.

Only 24% of patients with eczema or their caregivers could manage flare-ups effectively, according to the ISOLATE study, which investigated the management of 2002 patients or caregivers with eczema in eight countries (Zuberbier et al, 2006). These researchers found that patients or caregivers waited on average 7 days before treating a flare-up. Stress and anxiety can play a substantial role in the appearance of symptoms and the effectiveness of treatments.

This book comprises edited and updated versions of articles from a long running and highly popular series published in Practice Nursing journal on the differential diagnosis of dermatological conditions. This series was born in 2002, when an earlier series of dermatological case studies was expanded into a format that allowed for discussion and practical recommendations on diagnosis and management in greater detail.

Dr Jean Watkins has developed an interest and expertise in dermatology during a long career as a GP, and is particularly aware of the psychological impact of skin disorders. In this book she takes a practical approach to the assessment, diagnosis and management of a wide variety of skin conditions. This book will interest GPs and general practice nurses alike. It is complemented by images from Dr Watkins's own library, taken over the course of her career. It will provide a useful, practical guide to help GPs and practice nurses improve the quality of life of patients suffering with skin disorders.

Liam Benison
Editor/Publisher, Practice Nursing

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Malignant melanoma

There is an increasing public awareness of the dangers of sun exposure and possibility of developing malignant melanoma. Thinning of the ozone layer, global warming and constant media reminders of the risks of exposure to the sun are bringing patients to the surgery at the first sign of a mole or blemish on the skin.

It is often difficult to diagnose moles and decide whether a patient needs urgent referral or general advice. The job of the clinician is to separate, as far as possible, those lesions about which we should be unconcerned, from those that require further investigation or treatment. This chapter looks at those diagnostic features that should lead health professionals to suspect malignancy, as well as identifying the patients most likely to suffer from such problems.

Health professionals need to recognize problems and arrange appropriate, urgent intervention. They must also help to educate patients, particularly those at greatest risk, on how to prevent the development, and/or spot the signs of melanoma early on, at a stage when treatment will usually offer an excellent prognosis.

Table 1.1. When to suspect malignant melanoma

Any one of three major features or three out of four minor ones should raise suspicion of a melanoma:

Major features
- Change in size
- Irregular shape
- Irregular colour

Minor features
- Largest diameter greater than 7 mm
- Inflammation
- Oozing
- Change in sensation

From: Roberts et al, 2002.

Aetiology

Malignant melanoma arises in the pigment producing melanocytes in the basal layer of the epidermis as the result of over-stimulation by ultraviolet light. It has the potential to metastasize via the lymphatics and the circulation with fatal results (du Vivier, 2002). Malignant melanoma is rare before puberty, and tends to occur after the age of 20–30 years. The incidence and mortality of malignant melanoma is increasing world-wide (Muir et al, 1987). It has been predicted that the rate will rise with the increasing thinning of the ozone layer (Mackie and Rycroft, 1988). The incidence of malignant melanoma in the UK is about 10 per 100 000, with approximately twice the number of women with the condition compared to men (Buxton, 2003). A number of different factors lead to the possibility of development of malignant melanoma. The incidence of melanoma is highest in countries which enjoy the most sun throughout the year. At greatest risk, are people with, fair hair and fair skin that tends to burn easily after exposure to ultraviolet light, which may be either from sun exposure or the use of sunbeds. The risk of damage to the skin is cumulative over the years, and increased where there has been actual sunburn (Whiteman and Green, 1994) (*Figure 1.1*).

Genetic factors also play a part. For example, those with fair skin are at increased risk. Patients with a strong family history of malignant melanoma are also at greater risk (Roberts et al, 2002). Gene testing is not currently advised, however. Where there are three or more members of the family with malignant melanoma, they should be referred for counselling. Patients should also be referred if two or more members of the family have atypical mole syndrome with multiple pigmented naevi, mainly on the trunk (*Figure 1.2*), particularly if the pigmented naevi increase in number during adolescence, as the risk of

Figure 1.1. Sunburn of the foot, increases the risk of development of melanoma.

Figure 1.2. Atypical mole syndrome.

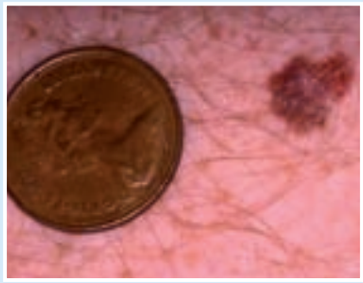

Figure 1.3. Superficial spreading malignant melanoma.

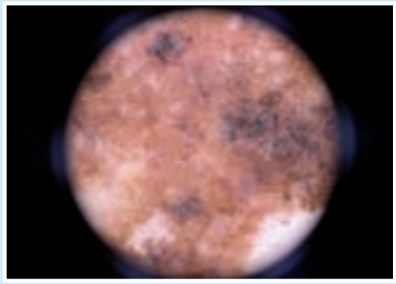

Figure 1.4. Dermatoscopic view of superficial spreading malignant melanoma.

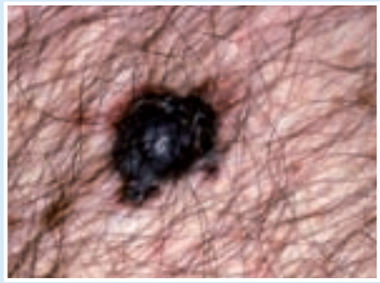

Figure 1.5. Nodular malignant melanoma.

malignant melanoma is greater in such cases (Roberts et al, 2002). Mole mapping may be appropriate in these cases so that changes can be more easily recognized (NLH Question-Answering Service, 2006). Although malignant change in pre-existing moles is rare, the darkly pigmented, often hairy bathing trunk naevus, that is present at birth and may cover quite an extensive area, has a 3–7% risk of change to a melanoma and should be watched with care (Kantor, 2004).

Diagnostic features

The British Association of Dermatologists (BAD) has produced a check-list of features that may suggest melanoma or malignant change in an existing pigmented lesion (Roberts et al, 2002) (*Table 1.1*). There are five main types of malignant melanoma: superficial spreading melanoma, nodular melanoma, acral lentiginous melanoma, amelanotic melanoma and lentigo maligna melanoma.

Types of melanoma

Superficial spreading melanoma

Superficial spreading melanoma is the most common type of melanoma, Figure 1.3 shows the classic features of an irregular outline and a small patch of inflammation in a mole that had changed and increased in size since a holiday in the sun. The use of a dermatoscope will help confirm anxieties if the features of disordered pigmented pattern, multiple brown dots, pseudopods (kinked projections at the edge of superficial spreading melanoma), scar-like depigmentation and multiple colours are seen. In some, a blue veil is seen throughout the surface. At least one of these features should be seen if the lesion is a malignant melanoma (Menzies et al, 2000) *(Figure 1.4)*.

Nodular melanoma

Nodular melanoma most commonly found in middle-aged men on the chest and the back. It presents as a dark, rapidly growing nodule that shows invasive, vertical growth from the beginning and has therefore, potentially, a poorer prognosis (*Figure 1.5*).

Acral lentiginous melanoma

An acral lentiginous melanoma is mainly seen on the soles of the feet, palms of the hand and under the nails, and accounts for 8% of cases of melanoma (Goldstein and Goldstein, 2001). It is the most prevalent type of melanoma to occur in the skin of black and Asian people. A raised dark area is surrounded by a paler, lentiginous area (*Figure 1.6*).

In cases of patients with subungual melanoma, it is important to look for Hutchinson's sign, in which there is associated pigmentation of the adjacent nail fold (Buxton, 2003).

Amelanotic melanoma

This anaplastic melanoma develops from melanocytes, without the formation of melanin (*Figure 1.7*). It is a

Figure 1.6. Acral malignant melanoma on sole of foot.

Figure 1.7. Amelanotic malignant melanoma.

Figure 1.8. Lentigo maligna with in situ malignant melanoma.

reminder not to ignore a lesion because it is not pigmented because amelanotic melanomas do occur. When in doubt about a lesion, it should be excised with adequate margin or biopsied. This elderly woman noticed that the lesion on her thumb had increased in size over the previous 6 months. Histology confirmed the diagnosis of an amelanotic melanoma.

Lentigo maligna melanoma

Lentigo maligna lesions (also known as Hutchinson's freckle) are commonly seen on sun-exposed areas such as the face (*Figure 1.8*). The flat, pigmented brown or black lesion, with an irregular edge, gradually increases in size. In time, it may invade the basement membrane and this part of the lesion becomes thickened and nodular. It is then described as a lentigo maligna melanoma. A biopsy was taken from the thickened part of this lesion and confirmed as an *in situ* malignant melanoma.

Prognosis

Success in the treatment of malignant melanoma is dependent on its site and thickness (Breslow thickness) (*Table 1.2*), therefore, early diagnosis and excision with sufficient margin is crucial.

The prospect for patients with more advanced disease is poor. This patient (*Figure 1.9*), who had been applying hydrocortisone ointment to an undiagnosed lesion, not only had wide local spread, but also inguinal lymph gland involvement. Open biopsy of the glands may be recommended to confirm such spread, and block dissection may be considered if computed tomography (CT) scan or ultrasound of the liver is found to be clear. Even so, the prognosis is not good. Although trials of adjuvant systemic therapy are continuing, there is not currently a standard approach (Roberts et al, 2002).

Where there is obvious metastatic disease, as in the patient in *Figure 1.10,* who has secondary nodules on the chest wall, gross weight-loss and several other melanomas, palliative care is all that is available. It may be worth removing solitary metastases, and although radiotherapy may be used for bone or skin metastases, short term symptomatic control is all that can be hoped for. New research continues in the search for other treatments for malignant melanoma with some hopes for a successful vaccine, new chemotherapy strategies and other drugs which hold out some promise for the future (Gore and Marais, 2005).

Figure 1.9. Avanced malignant melanoma with local spread

Figure 1.10. Metastatic malignant melanoma with secondary nodules.

Prevention of melanoma

Prevention is obviously better than cure. There is now much more awareness of the risks associated with sun damage to the skin, and it is a message that is crucial to remember. On visiting Australia and New Zealand, for example, it is evident that there is a greater national awareness. It is normal practice to be equipped with a hat and cover-up clothes, particularly for children, and to adequately and frequently apply sun lotion. Schools also have strict policies and appropriate uniforms for outdoor sports and activities. If such practices are coupled with a good awareness of any skin changes that could indicate a malignant melanoma at an

Table 1.2. Prognosis of malignant melanoma

Breslow thickness	Excision margins	5-year survival rate	Follow-up
In situ	2–5 mm	95–100%	Once after complete excision of primary lesion
<1 mm	1 cm	95–100%	Once after complete excision of primary lesion providing the specialist is satisfied
1–2 mm	1–2 cm	80–96%	3 monthly for 3 years Then 6 monthly for 2 years
2.1–4 mm	2–3 cm	60–75%	3 monthly for 3 years Then 6 monthly for 2 years
>4 mm	2–4 cm	50%	3 monthly for 3 years Then 6 monthly for 2 years