Skin cancer: prevalence, prevention and treatment

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Skin cancer is one of the most common cancers in the UK; there are over 70,000 registered cases per year. Registered cancers are, however, a significant underestimate of the size of the problem, since registration is incomplete for the less serious types. The incidence is still increasing, with skin cancer becoming a major UK health issue. In February 2006, the National Institute for Health and Clinical Excellence issued a guidance document, *Improving outcomes for people with skin tumours including melanoma*, which sets out the framework for providing skin cancer care.[1]

For malignant melanoma, the most serious form of skin cancer, the incidence has doubled in the last 20 years. In the UK in 2002 there were 4,500 melanomas in women and 3,500 in men, with 1,800 deaths from metastatic melanoma in 2003. Men have a worse prognosis than women as the death rate is over 1,000 per year. Melanoma accounts for 20% of cancers in 15–39 year olds. Whilst the incidence of melanoma increases from the age of 25, non-melanoma skin cancer is uncommon before the age of 50 but then the incidence increases rapidly with age. Squamous cell carcinoma (SCC), for example, is particularly a cancer of older people on sun-exposed sites; it does not usually give rise to metastatic disease but may do so more commonly from head and neck tumours. Basal cell carcinoma (BCC) is the commonest form of skin cancer with over 50,000 registered cases per year. The true incidence, however, is unknown since many patients with multiple primaries, or on whom there is no histology, are missed. BCCs do not metastasise but can be very locally destructive if neglected. All healthcare personnel have a responsibility to be aware of the signs of suspected skin cancer and initiate a referral when appropriate. Current skin cancer figures and advice about skin protection may be obtained from Cancer Research UK.[2]

Ultraviolet light exposure in fair-skinned individuals is the major aetiological factor for all types of skin cancer. The change in lifestyle in the UK over the last 50 years has also been responsible for the dramatic increase in skin cancer. Factors include fashion habits, desire for an attractive suntan, sunny holidays, increasing affluence, cheaper air travel, and an aging population. Changing climate and concerns about the ozone layer have been minor factors to date. Intermittent sun exposure and in particular episodes of sunburn in children and young adults is thought to be the main factor responsible for melanoma. In contrast, BCC and particularly SCC are more related to long-term chronic sun exposure in fair-skinned individuals. These two types of tumour frequently occur in association with chronic sun damage of the skin, which gives dryness, thinning, wrinkling and telangiectasia of the skin as well as the dysplastic lesions of actinic keratoses. The increasing number of tanning salons and their use by teenagers and young adults with a desire for a permanent tanned appearance is a major concern. Studies already show sunbed use is a risk factor for melanoma.[3] Recent surveys have shown that in many areas children under 16 years of age, boys and girls alike, use these regularly. There is an urgent need for stricter regulation and enforced age limits on their use. The principles of sun protection, avoiding exposure during the middle part of the day, wearing protective clothing and the proper use of sunscreens, are well known but need to be constantly repeated. The public perception that sunbathing is safe if sunscreens are used is erroneous. With the long delay before the development of skin cancers, there is little prospect for a reduction in skin cancers in the UK within the next 10 years.

All patients with a suspected melanoma or SCC of the skin should be seen, usually by a dermatologist, within two weeks of the referral date. The prognosis in malignant melanoma is determined by the thickness (Breslow thickness) of the tumour at the time of presentation and surgical removal. With a thickness above 2 mm the prognosis becomes increasingly less favourable since tumours are more likely to have metastasised. Effective treatment requires early diagnosis and excision by a wide margin (1–3 cm) along published guidelines.[4] Sentinel lymph node biopsy may provide accurate staging and in the UK it is often performed on tumours above 2 mm in Breslow thickness. There are no clinical trials, however, which show therapeutic benefit of regional node dissection in those with metastatic disease in the sentinel node.[5] Local metastatic disease is best treated surgically. No postoperative adjuvant therapy (eg interferon or vaccines) has been shown to improve survival, but may prolong the disease-free interval.

SCC is best treated by complete surgical excision with a minimum of 4 mm margin for smaller tumours or low-risk sites.[6] Large or poorly differentiated tumours and those on high-risk sites require a margin of 6 mm. Radiotherapy is an alternative in older patients where surgery may prove difficult and

is also given as an adjunct in poorly differentiated tumours at high-risk sites. Surgery is the treatment of choice for BCCs and is the treatment with the lowest recurrence rate. The recommended minimum clearance margin is 3 mm for most tumours but 5 mm at high-risk sites or histological subtype eg morphoiec BCCs. There are other treatments which may be successful depending on the tumour type and clinical situation.[7] Radiotherapy is suitable for older patients where surgery may be difficult or extensive but is generally avoided in patients less than 65 years old. Cryotherapy or curettage and cautery has a higher recurrence rate than surgery but may be suitable for larger superficial BCCs, especially on the trunk. Photodynamic therapy (PDT) uses non-ionising radiation following topical application of aminolevulinate to sensitise the skin. It is suitable to superficial BCCs, gives good cosmetic results, but long-term recurrence rates are not yet known and its use is restricted to specialist centres. There are several trials giving encouraging early results for topical imiquimod in low-risk tumour types. Local reactions may be a draw back and careful follow-up is required in case there is treatment failure.

Skin cancer is a significant and increasing health issue for the nation. Prevention is a long-term issue and will require a major change in the attitude and behaviour of the population.

References

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