

SKIN CANCER

As a group of diseases skin cancer is by far the most common form of malignancy affecting people worldwide.

Cancer of skin results from uncontrolled proliferation of tumour cells arising from different types of cells in the skin. The changes giving rise to tumours occur on a genetic level, and in the case of skin cancers, most mutations are directly related to sun exposure or other forms of UV radiation (such as tanning beds). Genetic defects may also contribute to development of skin cancers (such as albinism and xeroderma pigmentosum).

Most skin cancers fall in one of three categories—basal cell carcinomas, squamous cell carcinomas and malignant melanomas. Rarely other tumour types are encountered such as cancers of connective tissues and skin adnexal structures (hair follicles and sweat glands).

Basal cell carcinoma is a tumor that arises in the skin's basal cells, which line the deepest layer of the epidermis (the outer most layer of the skin). These are the most common cutaneous malignancies worldwide accounting for more than 80% of all skin cancers. These lesions typically occur in fair-skinned individuals of Caucasian heritage, often affecting individuals over 40 years of age.

Squamous cell carcinoma is the second most common malignancy of skin. It represents malignant tumours of the keratin-producing cell layers of the epidermis. These lesions occur in sun exposed areas (head, neck, scalp, forearms and back of hands) of older individuals over 60 years of age; and are therefore commonly associated with other sun-induced lesions such as actinic keratoses. Squamous cell carcinomas may also develop in chronic ulcers and scars.

Squamous cancers occur commonly in patients with certain genetic disorders such as albinism, but may also develop in patients with HIV infection or other types of immunosuppression such as organ transplant recipients.

Patient with squamous and basal cell carcinomas tend to have an excellent prognosis as these lesions hardly ever spread to other sites. However, in patients with some form of immunosuppression these tumours may become more aggressive.

Treatment options for squamous and basal cell cancers include surgery (again the pathologist has to confirm completeness of excision); but some lesions may be treated by cauterisation, cryotherapy or radiation.



Protection against skin lesions—Different skin types behave and age differently in response to long-standing sun exposure. The skin of a Caucasian person tends to age quicker than the skin of dark skinned individual; however skin protection against the sun is important to all people regardless of the colour of their skin.

The best protection against the sun is to use sunblock preparations with a Sun Protection Factor (SPF) of 50 every 4 hours when in direct sun. Lower SPF preparations protect one's skin for a shorter duration of time. A wide brim hat and long sleeves also help protect from the effects of the sun.

One should also avoid the sun even when indoors. Children should also be encouraged to use sunblock from an early age; and especially between 10 a.m. and 2 p.m. The use of tanning beds is strongly discouraged as they have been shown to be harmful and may induce skin cancer.



Basal cell carcinoma



Squamous cell carcinoma

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PIGMENTED SKIN LESIONS & SKIN CANCER



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PIGMENTED SKIN LESIONS

Pigmented (coloured) skin lesions are very common, most of them representing benign (non-cancerous) tumors of the pigment-forming cells and skin, namely the melanocytes. However, not all darkly pigmented lesions are derived from the melanocytes—some represent warts of different cell types, blood vessel lesions or some non-melanocytic cutaneous malignancies.

Melanocytic nevi (“moles”) are benign tumors that may either be congenital (present from birth) or acquired (arising after birth).

Congenital nevi typically present at birth as large flat dark skin lesions that may rarely involve large parts of the body. Patients with congenital nevi are at increased lifetime risk for developing melanomas (malignant, often aggressive tumors of skin).

Acquired nevi typically appear in childhood and early adulthood and then undergo a maturation processes throughout life. Some of these lesions may become inflamed and subsequently start disappearing either partially or completely.

Moles at special sites such as male or female genitalia may imitate melanomas both in its appearance and on microscopic examination; so can some nevi arising in children or moles that recur following incomplete excision.

Dysplastic/atypical nevi form a large group of tumors that per definition show some but not all the features of melanoma. It is a controversial topic as pathologists do not always agree on the diagnostic features, often requiring multiple opinions by specialised skin pathologists for an accurate diagnosis. As a result most dermatologists and plastic surgeons prefer to treat these dysplastic/atypical nevi similar to early melanomas (by surgical removal).

Melanomas are malignant tumors that can be life-threatening. There are different types of melanoma, each with a different biological behaviour. Melanomas are also diagnosed at different stages of development; each stage and type associated with its own prognosis and treatment options. It is advisable not to freeze these lesions.

It is important for every Caucasian person to to have a complete skin examination yearly; that includes the scalp, palms and soles.

In the interest of early detection and appropriate treatment it is important to assess each pigmented lesion for DANGER SIGNS (the so-called “ABC’s of melanoma”).

ABC’S OF MALIGNANT MELANOMA

A (asymmetry)—the appearance of these lesions typically vary from area to area within the same lesion in terms of intensity of colour and other characteristics.

B (border)—melanomas tend to have irregular outlines and are not perfectly round or oval in shape.

C (colour)—these lesions are typically pigmented, but there may be significant variation in colour differences including the different shades of brown to black; some lesions may show no pigment at all.

D (diameter)—most malignant melanomas are larger than ordinary moles; and they tend to increase in size over time.

E (evolving)—all the above characteristics may change over time (changes in colour, size, outline and symmetry).

The most dangerous form of malignant melanoma is the so-called nodular melanoma. In view of its invasive and expanding nature a few additional characteristics should be considered:

E (elevation)—these lesions tend to be nodular and stand out from the surface of the skin. There may become haemorrhagic and ulcerated.

F (firmness to touch)—unlike most ordinary moles that are soft in consistency, malignant melanomas tend to be firm nodules. Some lesions may also be painful, especially when inflamed or ulcerated.

G (growing)—as the lesions progress they become larger as they involve a larger surface area and deeper levels of the underlying connective tissue.

It is important to note that all not all pigmented lesions are malignant melanomas. Therefore one must seek medical help whenever a pigmented skin lesion with unusual features is detected.

All individuals with multiple moles and/or a personal or family history of melanoma should be screened by a Dermatologist on a regular basis.

Treatment of malignant melanomas can be complex and depends on the melanoma type and stage of disease; management options include a combination of surgery, chemotherapy, immunotherapy and radiation.

Malignant melanomas should be managed by multidisciplinary medical teams with the necessary expertise in surgery, oncology, plastic surgery and pathology.

Blood vessel lesions (benign or malignant) may also be pigmented; most are often red to violaceous or darker purple in colour. Other lesions such as cutaneous basal cell carcinomas and seborrheic warts may also acquire some pigment despite the notable absence of significant numbers of melanocytes within these lesions. Some of these lesions are notorious for simulating melanomas.



Benign flat naevus



Benign raised naevus



Benign blood vessel lesion (haemangioma)



Melanoma

TAKE-HOME MESSAGE

Pigmented skin lesions are most often benign, but one should be very attentive for features that raise concern for melanoma (“ABC’s”). Any pigmented lesion that changes over time or becomes larger, painful or itchy, ulcerate or bleed must be assessed by a medical professional with dermatological expertise and experience.

Suspicious pigmented lesions should never be cauterised or frozen as all these lesions require laboratory analysis to obtain an accurate diagnosis.

