ABC of Dermatology

P K BUXTON

LUMPS AND BUMPS

The skin is a common site for neoplastic lesions, but most invade only locally and with treatment usually do not pose any threat to the life of the patient. The exception is malignant melanoma, which is dealt with in next week's article. This is a rare tumour with a high mortality, and recent publicity campaigns have been aimed at preventing the tragedy of fatal metastases from a neglected melanoma.

As a result a large number of patients are being seen with

pigmented skin lesions and nodules, only a very few of which are neoplastic. The question is how to distinguish the benign, the malignant, and the possibly malignant. The following guidelines may help in deciding whether the lesion can be safely left or should be treated.

A correlation of the clinical and pathological features is helpful in making a confident diagnosis of the more common tumours.

Seborrhoeic warts

Seborrhoeic warts come in various shapes sizes and colours. When deeply pigmented, inflamed or growing they may appear to have the features of a malignant lesion, but the following features are characteristic.

- Well defined edge
- Warty, papillary surface—often with keratin plugs
- Raised above surrounding skin to give a “stuck on” appearance

Individual lesions vary considerably in size, but are usually 0.5-3 cm in diameter. Protruberant and pedunculated lesions occur. Solitary lesions are commonly seen on the face and neck but more numerous, large lesions tend to occur on the trunk. They become more common with increasing age.

Basal cell carcinoma

In contrast, the early basal cell carcinoma—or rodent ulcer—presents as a firm nodule, clearly growing within the skin and below it, rather than on the surface. The colour varies from that of normal skin to dark brown or black, but there is commonly a “pearly” translucent quality. As its name implies, the tumour is composed of masses of dividing basal cells that have lost the capacity to differentiate any further. As a result no epidermis is formed over

Cystic basal cell carcinoma.

Superficial basal cell carcinoma.

Pigmented basal cell carcinoma.

Neglected basal cell carcinoma (rodent ulcer).

the tumour and the surface breaks down to form an ulcer, the residual edges of the nodule forming the characteristic "rolled edge." Once the basal cells have invaded the deeper tissues the rolled edge disappears.

Variants

Variants of the usual pattern can cause problems in diagnosis. *Cystic* basal cell carcinomas occur and those that show differentiation towards hair follicles or sweat glands may have a less typical appearance. *Pigmented* lesions can resemble melanoma. The *superficial spreading* type may be confused with a patch of eczema. This usually occurs on the trunk, does not itch, and shows a gradual but inexorable increase in size. A firm "whipcord" edge may be present.

Treatment

Various methods of destroying tumour tissue are used and the results are similar for radiotherapy and surgical excision.

- (1) Ulcerated lesions may invade tissue planes, blood vessels, and nerves more extensively than is clinically apparent.
- (2) Although modern techniques of radiotherapy result in minimal scarring and atrophy these may cause problems near the eye.
- (3) Basal cell carcinomas in skin creases, such as the nasolabial fold, tend to ulcerate and are hard to excise adequately.
- (4) Surgical excision has the advantage that should the lesion recur radiotherapy is available to treat it, whereas it is not desirable to treat recurrences after radiotherapy with further irradiation.

Squamous cell carcinoma

Squamous cell carcinoma

Squamous neoplastic cells

Squamous cell carcinoma represents proliferation of the epidermal keratinocytes in a deranged manner—with a variable degree of differentiation into epidermal cells that may show individual cell keratinisation and "pearls" of keratin. In other tumours bizarre cells with mitoses, cells with clear cytoplasm, or spindle cells may be seen.

This type of cancer often develops at a site of previous damage to the skin—for example, from sunlight or chemical damage. The first change clinically is a thickening of the skin with scaling or hyperkeratosis of the surfaces. The more differentiated tumours often have a warty, keratotic crust while others may be nodular. The edge is poorly defined. There may be associated dilated, telangiectatic blood vessels. The original hard, disc like lesion becomes nodular and ulcerates with strands of tumour cells invading the deeper tissue. The thick warty crust, often found elsewhere, may be absent from lesions on the lip, buccal mucosa, and penis.

These histological changes complement the clinical appearance and are clearly different from those of basal cell carcinoma.

Treatment—Small lesions should be excised as a rule, making sure that the palpable edge of the tumour is included, with a 3-5 mm margin. Radiotherapy is effective but fragile scars may be a disadvantage on the hand. Cryotherapy or topical fluorouracil can be used for histologically confirmed, superficial lesions and also for solar keratoses.

Solar keratoses

Squamous cell carcinoma may develop in solar keratoses, which show thickening of the epidermis and abnormal keratinocytes. They occur on sites exposed to the sun and are more common on those who have worked out of doors or sunbathed excessively. They can be regarded as squamous cell carcinomas grade 1/2 but do not necessarily progress to a full dysplastic carcinoma. They also develop on the lips of pipe smokers.

The clinical appearance varies from a simple rough area of skin to a keratotic lesion with marked inflammation. The edge and surface are irregular.

Treatment with cryotherapy, using liquid nitrogen or carbon dioxide, repeated if necessary, is usually effective.

Other conditions

Bowen's disease is characterised by a well defined, erythematous macule with little induration and slight crusting. It is a condition of the middle aged and elderly, occurring commonly on the trunk and limbs. It is an intraepidermal carcinoma, which has been reported to follow the ingestion of arsenic in "tonics" taken in years gone by or exposure to sheep dip, weedkiller, or industrial processes. After many years florid carcinoma may develop with invasion of deeper tissues. It may be confused with a patch of eczema or superficial basal cell carcinoma. It may be associated with underlying malignancy. Erythroplasia of Queyrat is a similar process occurring on the glans penis or prepuce.

Paget's disease of the nipple presents with unilateral non-specific erythematous changes on the aureola and nipple, spreading to the surrounding skin. The cause is an underlying adenocarcinoma of the ducts. It should be considered in any patient with eczematous changes of one breast that fail to respond to simple treatment. Extramammary lesions occur.

Keratoacanthoma is a rapidly growing fleshy nodule that develops a hard keratotic centre. Healing occurs with some scarring. Although benign, it may recur after being removed with curette and cautery, particularly from the face, and is best excised.

Bowen's disease.

Paget's disease of the nipple.

Benign tumours

Dermatofibroma (top left), skin tags (above), and syringoma (left).

Derma tofibroma—This is a simple, discrete firm nodule, arising in the dermis at the site of an insect bite or other trivial injury. Often there is a brown or red vascular lesion initially which then becomes fibrotic—a sclerosing haemangioma. The histiocytoma is similar but composed of histiocytes.

Skin tags may be pigmented but rarely cause any diagnostic problems unless inflamed. Some are in fact pedunculated seborrhoeic warts and others simple papillomas (fibroepithelial polyps).

Other benign tumours

A wide variety of tumours may develop from the hair follicle and sebaceous, exocrine (sweat), and apocrine glands. The more common include *syringomas* slowly growing, small, multiple nodules on the face of eccrine gland origin.

Naevus sebaceous.

Verrucous epidermal naevus.

Epidermoid cyst.

Milia.

Naevus sebaceous is warty, well defined, varying in size from a small nodule to one several centimetres in diameter. Lesions occur in the scalp of children, may be present at birth, and gradually increase in size. They may proliferate or develop into a basal cell carcinoma in adult life and they are therefore best removed.

Verrucous epidermal naevi are probably a variant, found on the trunk and limbs.

Cysts

The familiar *epidermoid cyst*—also known as sebaceous cyst or wen—occurs as a soft, well defined, mobile swelling usually on the face, neck, shoulder, and chest. It is not derived from sebaceous glands but contains keratin produced by the lining wall.

Pilar cysts on the scalp are similar lesions derived from hair follicles.

Milia are small keratin cysts consisting of small white papules found on the cheek and eyelids.

Vascular lesions

Naevus flammeus.

Sturge-Weber syndrome.

The more common vascular naevi are mentioned.

The port wine stain, or naevus flammeus, presents at birth as a flat red lesion, usually on the face, neck, or upper trunk. There is usually a sharp midline border on the more common unilateral lesions. In time the affected area becomes raised and thickened because of proliferation of vascular and connective tissue. If the area supplied by the ophthalmic or maxillary divisions of the trigeminal nerve is affected there may be associated angiomas of the underlying meninges with epilepsy—Sturge-Weber syndrome. Lesions of the limb may be associated with arteriovenous fistulae:

Cavernous angioma.

Cavernous angioma—strawberry naevi—appear in the first few weeks of life or at birth. A soft vascular swelling is found, most commonly on the head and neck. The lesions resolve spontaneously in time and do not require treatment.

Spider naevi.

Pyogenic granuloma.

Spider naevus consist of a central vascular papule with fine lines radiating from it. They are more common in children and women. Large numbers in a man raise the possibility of liver disease.

Campbell de Morgan spots are discrete red papules 1-5 mm in diameter. They are more common on the trunk.

Pyogenic granuloma is a lesion that contains no pus but is in fact vascular and grows rapidly.

It may arise at the site of trauma. Distinction from amelanotic melanoma is important.

Dr P K Buxton, FRCPED, FRCPC, is consultant dermatologist, Royal Infirmary, Edinburgh, and Fife Health Board.