Sullivan Nicolaides PATHOLOGY
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Sonic Skin Dx

basal cell carcinoma

Introduction

Basal cell carcinomas are common cutaneous tumours accounting for approximately 80% of all malignant lesions of the skin. They exceed squamous cell carcinomas in frequency by a factor of approximately 5:1. In tropical areas, the ratio is closer to 4:1. Multiple basal cell carcinomas may develop in the basal cell naevus syndrome, in the rare Bazex's syndrome and in xeroderma pigmentosum.

Clinical Features

Up to 80% of all lesions are found on the head and neck, while approximately 15% develop on the shoulders, back or chest. They may be a papulonodule with a pearly translucent edge, an ulcerated destructive lesion, a pale plaque with induration, a partly cystic nodule or an erythematous plaque. Approximately 2–5% have some pigmentation. The accuracy rate in the clinical diagnosis is 60–70%.

Aetiology

Although the prime aetiological factor is exposure to UV light, particularly UV-B, solar dosimetry studies show a poor correlation between tumour density and UV dose. Whereas squamous cell carcinomas tend to develop at sites of direct sunlight (dorsum of hands, ears, bald scalp and lower lip), basal cell carcinomas are more common in sites slightly removed from these. Other predisposing factors include exposure to X-rays, arsenical intoxication and stasis dermatitis of the legs. Basal cell carcinomas are difficult to produce experimentally in animals.

Histopathology

Basal cell carcinomas are composed of islands or nests of basaloid cells with palisading of the cells at the periphery. Mitotic figures are numerous, as are apoptotic bodies. Various morphological subtypes have been described:

- solid (70% of all cases)
- micronodular (has a greater propensity for recurrence than the solid type)
- cystic
- multifocal superficial (usually on the upper trunk and shoulders)
- pigmented
- adenoid
- infiltrating (5% of all tumours; the border is clinically indistinct)
- sclerosing (5% or more; includes the morphoeic type)
- keratotic
- follicular
- metatypical [large pale cells(s)]
- basosquamous carcinoma (controversial)

The fibroepithelioma of Pinkus is another, rare, variant.
It is most important that the histological subtype is mentioned in the pathology report as this has prognostic implications (see below). The clinically aggressive subtypes are the micronodular, multifocal superficial, infiltrating, sclerosing, metatypical and basi-squamous types.

Perineural Spread

Perineural spread occurs almost exclusively in basal cell carcinomas of infiltrating type. Anecdotal experience suggests that such lesions have a higher incidence of local recurrence. There is no consensus as to the management of such cases. If the clearance is only shallow in depth, it is usually prudent to re-excise such cases to improve the clearance. If only a small nerve twig is involved, and there is good clearance (at least 1 mm), further treatment is probably not indicated.

Recurrences And Metastases

The five year recurrence rate for basal cell carcinomas is approximately 5%, although this varies with the type of treatment. An often-quoted report found that the recurrence rate was 1.2% in adequately-excised lesions, 12% if tumour was present within 1 HPF of the margin, and 33% if the tumour was present at the excision margins. Residual tumour is found in less than 60% of re-excision specimens following a report of tumour at an excision margin. Infiltrative, micronodular and multifocal types are more likely to recur than are nodular types. Metatypical and sclerosing variants may also be associated with more aggressive behaviour. In one study more than 50% of recurrent basal cell carcinomas had an aggressive histological picture in the initial lesion. With most clinically favourable basal cell carcinomas, a very high chance of complete excision can be achieved with a 2–3mm clinical margin and a 0.5mm microscopic margin. A 3–4mm clinical margin is appropriate when an aggressive subtype is suspected either clinically or on biopsy. Metastases are rare, occurring in approximately 0.05% of cases. Patients who have had one multifocal superficial basal cell carcinoma on the trunk are at risk for developing subsequent lesions.

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