Basal Cell Carcinoma of the Skin

Basal cell carcinoma is an abnormal, uncontrolled growth or lesion that arises from the skin’s basal cells that tends to occur at sites of sun-damaged skin. In addition to ultraviolet (UV) radiation, other risk factors for developing basal and squamous cell carcinoma include having fair skin, being male or older in age, exposure to other forms of radiation or to certain chemicals such as arsenic, scarred areas or sites of chronic tissue trauma, and certain hereditary diseases such as xeroderma pigmentosum and albinism.

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Pathophysiology

Most Common Skin Cancer
#1 Foam-finger
More than one-third of new cancer diagnoses are skin cancer, and the majority are BCC. Although it is the most frequently occurring form of cancer, BCC rarely metastasizes and therefore rarely becomes life-threatening.

2/3 of Cases Due to UV Light Exposure
2 of 3 car-gnomes Exposed to UV-sunlight
The sun’s ultraviolet (UV) radiation damages skin cells making this the most common risk factor for the development of skin cancer. Minimizing sun exposure is the best form of primary prevention of the development of basal and squamous cell carcinoma. Nearly all BCCs occur on parts of the body excessively exposed to the sun (face, ears, neck etc.).

Pink, Pearl-like Lesions
Pink Pearls
BCC may appear with a variety of presentations but is often described as a waxy lesion that is shiny like a pearl. They can look like open sores, pink or red patches or growths, or be translucent in appearance, often with ulceration and telangiectasia.

Rolled Borders
Rolling Edges
BCC may appear with a variety of presentations, but the skin often appears as a raised papule or nodule with a central crater, central crusting or ulceration.

Telangiectasias
Spider Veins
Small dilated capillaries can cause the pink or red discoloration often seen in BCCs.

Commonly Upper Lip
Upper Lip
Although basal and squamous cell carcinomas can appear anywhere on the body, BCC is more commonly seen on, and above the upper lip, whereas squamous cell carcinoma tends to favor the lower lip.

Diagnosis

Shave Biopsy
Shaving for Biopsy-sample
Removal of a small sample of tissue to diagnose BCC or used to completely remove an area of cancerous tissue may be done by shave or punch biopsy. Shave biopsy is used if the skin lesion is suspected to only affect the top (epidermis and dermis) layers of the skin. Shave biopsies have a ~50% recurrence rate, but recurrence rate after complete excision is <5%. Excisional biopsy can be done as well if there is suspicion of the tumor to have grown into deeper layers of the skin.

Pallisading Nuclei

Palisading Nuclear-barrels

Histological examination of tissue removed from biopsy will show multifocal nests of basophilic staining cells with peripheral palisading. Palisading refers to a row (or rows) of elongated nuclei, parallel to each other, seen on microscopy.

Treatment

Mohs Micrographic Surgery

Mower Surgeon

The single most effective technique for removing basal and squamous cell carcinomas. It involves removing very thin slices of skin, immediately freezing them and examining the frozen sections for cancerous cells. This resecting, freezing and examining process continues, section by section, until the margin is cancer free. This process allows for loss of very little healthy tissue. It is best used on delicate areas of skin where maximal preservation of healthy tissue is critical for cosmetic or functional purposes.