Basal cell carcinoma

Definition

BCC is a nonmelanocytic skin cancer usually confined to hair bearing skin.

Epidemiology

This cancer is quite common in Caucasian people over the age of 40. Males are more affected than females. It is 4 times more common than Squamous cell cancer.

Etiology

Sun exposure and damage is the major cause of this cancer. Primarily, the insult is due to UVR particularly UVB radiation occurring at a wavelength of 290- 230 nm. UVB incites DNA mutations and produces Thymidine dimers in the TSG p53. Other people are unfortunately genetically predisposed to acquiring skin cancers. Examples include Xeroderma pigmentosum, Gorlin's basal cell nevus syndrome and familial melanoma syndromes. Patients with XP are unable to repair the UV induced damage and are tend to develop both BCC and SCC under the age of 10 years. With Gorlin's, patients develop BCC in their teens and brain tumors. This mutation is in a Patched (PTCH) gene playing part in the Hedgehog signal transduction pathway. Radiation is also an inciting factor.

Predisposing factors

Skin phototypes I, II and albinos are more susceptible to getting BCC through prolonged sun exposure. Ingestion of arsenic leads increases risk to getting superficial multicentric BCC 30-40 years later. Previous therapy with X-rays for acne also potentiates the risk in all skin phototypes.

Clinical Manifestation

BCC arises in the basal cell layer of the skin. It is mostly seen on chronically sun exposed areas of the skin like face, head (scalp included), neck, and hands. It rarely metastasizes and is slow growing. It is however locally invasive and is usually fatal in this manner. There are 5 clinical types:

Nodular BCC

The most common type of BCC. It is cystic and some portions of nodular BCC may have areas of melanin pigmentation. It is keratotic and usually presents itself as a round, translucent (''pearly''), well defined and firm flesh-colored or red papule or nodule with telangiectases.

Ulcerating BCC

Presents as an ulcer with edges that appear somewhat as *rolled up*, translucent, pearly, smooth and firm with telangiectasia.

Sclerosing BCC

Appears as a small patch of morphea or a superficial scar. It is often ill defined, skin-colored, whitish but also with some peppery pigmentation. In this infiltrating type of BCC there is an excessive amount of fibrous stroma present. Histologically, finger-like strands of tumor extend far into the surrounding tissue, and this BCC's excision therefore requires wide margins. Sclerosing BCC can ultimately progress to nodular or ulcerating BCC.

Superficial multicentric BCCs

Appears in its glory as thin plaques of pink or red with a characteristic, fine, threadlike border and with telangiectasia that can be seen with the aid of a hand lens. This is the only form of BCC that can exhibit some scaling. This BCC can also give rise to nodular and ulcerating BCC. This BCC often bleeds with minimal excoriation.

Pigmented BCC

Lesions here may be brown to blue or black, rather smooth with a glistening surface and firm. They may be indistinguishable from superficial spreading or nodular melanoma but it is in itself usually harder. Presence of cystic lesions may occur which may be round, oval shaped sporting a depressed center ("umbilicated"). Stippled pigmentation can be seen in any of BCC types.

Treatment

Goal is to treat local disease and also to attain the best cosmesis for the patient. A complete skin exam is warranted due to the hightened risk of actinic keratosis or cancers arising at other skin sites in persons coming in with a suspicious lesion. Excision with primary closure, skin flaps, or grafts. Curetagge is good for small, nodular lesions less than 1cm and thus offers good cosmesis. Cryotherapy itself is for lesions less than 2cm but in this case may leave an area of depigmentation. For lesions in the danger sites (nasolabialarea, around the eyes, in the ear canal, in the posterior auricular sulcus, and on the scalp)and sclerosing BCC, microscopically controlled surgery (Mohs surgery) is the best approach.

Radiation therapy is an alternative only when disfigurement may be a problem with surgical excision (e.g., eyelids or large lesions in the nasolabial area) or in very old age. It also has the advantage of no pain, no hospitalization and no keloids or contractures. It does however produce some depigmentation, loss of hair follicles and sweat glands at the treated site.

Topical 5-fluorouracil 5% cream may be used to treat small, superficial BCCs in low-risk areas. It interferes with DNA synthesis by blocking methylation of deoxyuridylic acid and inhibiting thymidylate synthetase and, subsequently, cell proliferation. Side effects include progressive inflammation, erythema erosions and contact dermatitis. Interferon alfa-2b is a protein product manufactured using recombinant DNA technology. It has shown some success in treating small (< 1 cm), nodular, and superficial BCCs. The receptor-selective acetylenic retinoid tazarotene (Tazorac) can also be used to treat small low-risk BCCs. Tazarotene is thought to cause BCC regression by increasing apoptosis and by decreasing cell proliferation in the skin cancer cells. Imiquimod 5% cream (Aldara) is approved by the US Food and Drug Administration for the treatment of nonfacial superficial BCC.

Systemic chemotherapy is only for treating locally advanced and metastatic disease. Most used regimen is Cisplatin in combination with 5-fluorouracil or doxorubicin.

Prevention

- Avoid prolonged stay out in the sun without any form of protection be it in the form of sunglasses, a hat, some clothes or being under a shade;
- The use of a sufficient broad spectrum sunscreen suited for the prolonged stay outdoors (SPF 30 or higher);
- That also means avoiding the solarium/ tanning booths as they give out UV radiation;
- Making sure that one vigorously inspects their body for any suspicious skin changes;
- Screening is also a prevention method for people at a higher risk for getting a BCC especially albinos or if one has had, prior, some form of skin cancer.

Links

http://emedicine.medscape.com/article/276624-overview http://www.healthcentral.com/skin-cancer/000431.html http://caci.co.nz/skin-phototype-fitzpatrick

References

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