



Basal Cell Carcinoma

- The most common form of skin cancer
- abnormal, uncontrolled growths or lesions that arise in the skin's basal cells, which line the deepest layer of the epidermis (the outermost layer of the skin). BCCs often look like open sores, red patches, pink growths, shiny bumps, or scars.



1. BASAL CELL CARCINOMA

- The most common cancer affecting humans
- Slow growing
- At least 75% first tumours are on the face
- Relatively 'benign' in most cases – but if left untreated can be disfiguring and life threatening



Causes, incidence, and risk factors:



Basal cell carcinoma starts in the top layer of the skin called the epidermis. Most basal cell cancers occur on skin that is regularly exposed to sunlight or other ultraviolet radiation. This includes the top of your head, or scalp.

Basal cell skin cancer is most common in people over age 40. However, it occurs in younger people, too.

Etiology

- Ultraviolet radiation - most important and common cause of BCC
- Shorter wavelength ultraviolet (UV) radiation (290–320 nm, sunburn rays)
- Thus chronic sun exposure is important in the development of BCC
- A long latency period of 20–50 years.
- Other causes - X-ray exposure, chemical like arsenic, immunosuppression
- Syndromes like xeroderma pigmentosum (due to an inability to repair UV-induced DNA damage), and nevoid BCC syndrome are characterized by multiple basal cell carcinomas occurring in early age.

Table 1

Risk Assessment for BCC

Parameter	Low Risk	High Risk
Location/size	Area L ^a <20 mm Area M ^b <10 mm	Area L ≥20 mm Area M ≥10 mm Area H ^c
Borders	Well defined	Poorly defined
Primary vs. recurrent	Primary	Recurrent
Immunosuppression	No	Yes
Site of prior radiation	No	Yes
Subtype	Nodular, superficial	Aggressive growth pattern
Perineural involvement	No	Yes

^a Area L: trunk and extremities (excluding hands, feet, nails, ankles, pretibia).

^b Area M: forehead, cheeks, scalp, neck, pretibia.

^c Area H: facial mask areas, hands, feet, genitalia.

BCC: basal cell carcinoma.

Source: Reference 1.

Table 1. Risk Factors for the Development of Basal-Cell Carcinoma.

Physical characteristics

Blond or red hair
Blue or green eyes
Light skin color

Exposures

Arsenic
Coal tar
Ionizing radiation
Smoking
Tanning-bed use
Ultraviolet light

Genodermatoses

Albinism
Xeroderma pigmentosum
Rombo syndrome*
Bazex-Dupré-Christol syndrome (Bazex's syndrome)†
Nevoid basal-cell carcinoma syndrome (Gorlin's syndrome)‡

Immunosuppression

Recipients of solid-organ transplants

* This syndrome is an autosomal dominant disorder, characterized by basal-cell carcinoma, atrophoderma vermiculata, milia, hypotrichosis, trichoepithelioma, and peripheral vasodilatation.

† This syndrome is an X-linked dominant disorder, characterized by basal-cell carcinoma, follicular atrophoderma, hypotrichosis, and localized anhidrosis.

‡ This syndrome is an autosomal dominant disorder, characterized by basal-cell carcinoma, palmoplantar pits, odontogenic keratocysts, bifid ribs, frontal bossing, and central nervous system defects.

BASAL CELL CARCINOMA TYPES (BCC)



Nodular BCC



Superficial BCC



Pigmented BCC



Morphoeic BCC



Basosquamous BCC

Basal Cell Carcinoma

Clinical

Several subtypes are described

- **Nodulocystic:**

- single shiny, red nodule w/ telangiectasia

- **Superficial:**

- least aggressive

- erythematous plaques

- can mimic psoriasis

- **Sclerotic/Morpheiform:**

- most aggressive

- 5% of all BCC's.

- ill-defined borders

- **Pigmented**

- Shiny, blue-black papule, speckled pigment, rolled borders.



Image courtesy of www.visualdx.com © Logical Images, Inc

Superficial BCC

Basal Cell Carcinoma - Subtypes

Superficial

Single or multiple patches

Trunk

Indurated scaly

D/D- eczema, psoriasis or



Basal Cell Carcinoma - Subtypes

Nodular Ulcerative

Most common

Usually on the face

Small, slow growing

Firm

Telangiectasias

Ulceration



Basal Cell Carcinoma - Subtypes

Pigmented

Similar to nodular type

Deep brown pigmentation

Differential- malignant
melanoma



Basal Cell Carcinoma - Subtypes

FIBROEPITHELIOMA

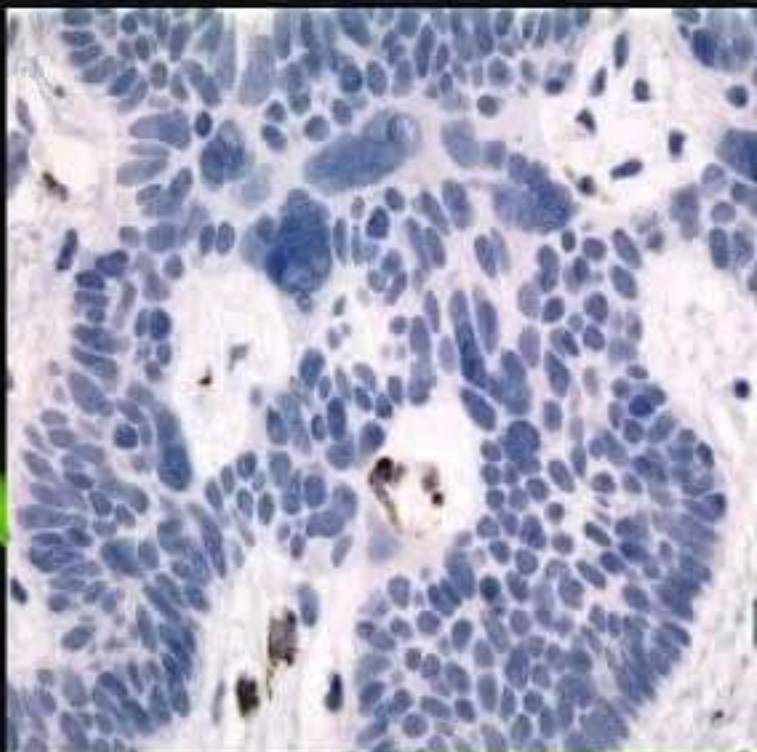
PINKUS TUMOUR

Raised

Moderately firm

Erythematous and
smooth

Lower trunk (lumbosacral
area)_



Basal Cell Carcinoma - Subtypes

Sclerosing (Morpheaform)

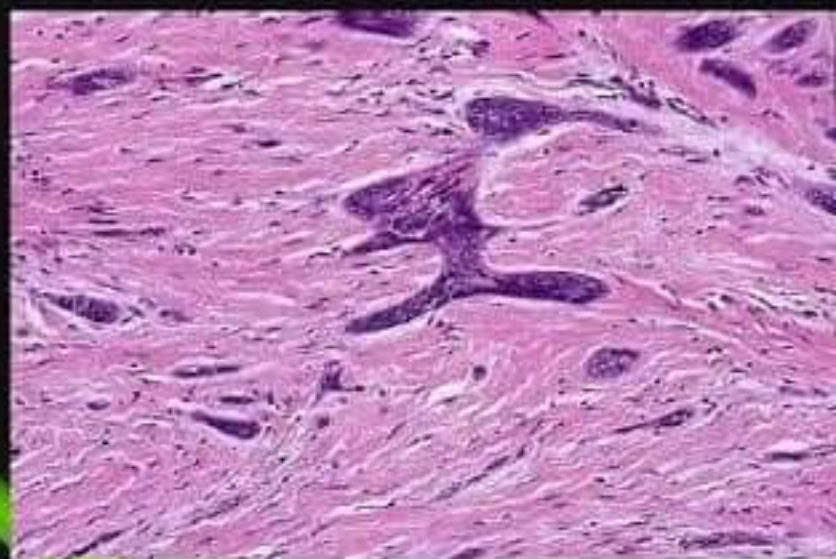
Yellow white plaques

Ill defined borders

Most aggressive

Most likely to recur

Central sclerosis & scarring



Basal-cell carcinoma

Cicatricial basal cell carcinoma



Nodular basal cell carcinoma



Superficial basal cell carcinoma



Basal Cell Carcinoma - Histopathology

Resemble normal basal cells

Hyperchromatic nuclei,
scant cytoplasm

Clustered separate
from stroma

Peripheral palisading

Desmoplastic reaction

Nests or in continuity



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Basal Cell Carcinoma

GROSS FEATURES

- Tumour is commonly a **nodular growth** with **central ulceration** (**nodulo-ulcerative**).
- **Margins** of the tumour are **pearly white** and **rolled** while the **base** shows **ulceration**.
- Tumour **burrows** into the underlying tissues like a **rodent** and **destroys** them.



TREATMENT CONSIDERATIONS FOR BCC

OBJECTIVES

Primary

- Complete removal of BCC

Secondary

- Preserve normal tissue & function
- Achieve best cosmetic results

FACTORS TO CONSIDER

Tumour

- Size
- Location
- Histology
- Primary or recurring BCC

TREATMENT OF BASAL CELL CARCINOMA

PHYSICAL

- Curettage and Electrodesiccation
- Cryotherapy
- Excision
- Mohs Micrographic Surgery
- Radiation Therapy
- Protection from further skin exposure

MEDICAL

- Photodynamic Therapy
- Tazarotene
- Imiquimod

Surgical

Standard excision

Excision with frozen or paraffin section control

Mohs micrographic surgery

Curettage and electrodesiccation

Cryosurgery

Laser ablation

Nonsurgical

Radiotherapy

Topical imiquimod

Intralesional interferon

Photodynamic therapy

Systemic Chemotherapy for BCC

- ❖ Cisplatin-based therapy was “standard-of care” based on case reports
- ❖ Single-agent cisplatin
 - 1 complete and 1 partial response noted in a phase I trial of cisplatin (1978)
 - 1 complete response (1983)
- ❖ Cisplatin and doxorubicin
 - 5 complete and 2 partial responses in 8 patients
 - 4 complete, 5 partial in 12 patients

Second Hedgehog Inhibitor Approved for Basal Cell Carcinoma

- Sonidegib (Odomzo) was approved for treatment of patients with locally advanced basal cell carcinoma recurring after surgery or radiation therapy and patients who are not candidates for surgery or radiation therapy.
- Sonidegib is the second Hedgehog inhibitor approved in basal cell carcinoma, with vismodegib (Erivedge) being the first.
- The recommended dose of sonidegib is 200 mg once daily on an empty stomach, at least 1 hour before or 2 hours after a meal.