

Introduction

Basal cell carcinoma, or BCC, is a type of skin cancer. It involves the basal cells of the skin at the bottom of the epidermis. It is very common and accounts for the majority of skin cancers in South Africa. Most Basal Cell Carcinomas are very slow-growing and seldom spread to other parts of the body. It often starts as a small, red, shiny spot or nodule that may bleed occasionally.



[Picture Credit: Basal Cell Carcinoma Picture]

Kim, D.P., Kus, K.J.B. & Ruiz, E. 2020.

“Basal cell carcinoma (BCC) is the most common malignancy and the incidence is rising. BCCs have low mortality but can cause significant morbidity primarily through local destruction. The pathogenesis is linked to the interplay between environmental and patient-derived characteristics. There are multiple therapeutic modalities, and appropriate selection requires knowledge of complications, cosmetic outcomes, and recurrence rates. This article reviews the epidemiology, staging, treatment, and prevention of BCC.”

Cameron, M.C., Lee, E., Hibler, B.P., Barker, C.A., Mori, S., Cordova, M., Nehal, K.S. & Rossi, A.M. 2020.

“As the most common human cancer worldwide and continuing to increase in incidence, basal cell carcinoma is associated with significant morbidity and cost. Continued advances in research have refined both our insight and approach to this seemingly ubiquitous disease. This 2-part continuing medical education article will provide a comprehensive and contemporary review of basal cell carcinoma. The first article in this series describes our current understanding of this disease regarding epidemiology, cost, clinical and histopathologic presentations, carcinogenesis, natural history, and disease associations.”

Incidence of Basal Cell Carcinoma in South Africa

According to the outdated National Cancer Registry (2017), known for under reporting, the following number of Basal Cell Carcinoma cases was histologically diagnosed in South Africa during 2017:

Group - Males 2017	Actual No of Cases	Estimated Lifetime Risk	Percentage of All Cancers
All males	8 480	1:20	21,21%
Asian males	32	1:300	3,30%
Black males	340	1:293	2,60%
Coloured males	863	1:20	18,40%
White males	7 245	1:5	34,66%

Group - Females 2017	Actual No of Cases	Estimated Lifetime Risk	Percentage of All Cancers
All females	6 153	1:39	14,76%
Asian females	29	1:294	2,25%
Black females	319	1:569	1,72%
Coloured females	634	1:42	13,94%
White females	5 171	1:8	30,70%

The frequency of histologically diagnosed cases of Basal Cell Carcinoma in South Africa for 2017 were as follows (National Cancer Registry, 2017):

Group - Males 2017	0 – 19 Years	20 – 29 Years	30 – 39 Years	40 – 49 Years	50 – 59 Years	60 – 69 Years	70 – 79 Years	80+ Years
All males	2	64	315	877	1 696	2 327	2 223	976
Asian males	0	1	2	4	4	10	8	3
Black males	0	6	15	50	77	86	85	21
Coloured males	0	4	39	96	165	236	218	105
White males	2	53	259	727	1 450	1 995	1 912	847

Group - Females 2017	0 – 19 Years	20 – 29 Years	30 – 39 Years	40 – 49 Years	50 – 59 Years	60 – 69 Years	70 – 79 Years	80+ Years
All females	3	48	187	684	1 093	1 614	1 559	865
Asian females	0	0	1	4	6	8	7	3
Black females	2	7	40	38	72	57	63	40
Coloured females	0	5	22	73	120	156	162	97
White females	1	36	225	569	1 159	1 393	1 327	725

N.B. In the event that the totals in any of the above tables do not tally, this may be the result of uncertainties as to the age, race or sex of the individual. The totals for 'all males' and 'all females', however, always reflect the correct totals.

Cohen, P.R., Erickson, C.P., Usebelhoer, N.S. & Calame, A. 2020.

“Tattoos may be associated with medical complications including, albeit rarely, skin cancer. The features of a 46-year-old man who developed a basal cell carcinoma within a tattoo on his left scapula are described and the characteristics of the other 13 patients (7 men and 6 women) with tattoo-associated basal cell carcinoma are reviewed. The tumor usually occurs on the sun-exposed skin of individuals aged 60 years and older whose tattoo has often been present for 20 years or more. The pathogenesis of a basal cell carcinoma developing within a tattoo may merely be a coincidence. However, there is supporting evidence that the tattoo and the subsequent basal cell carcinoma may be coincident events whereby either tattoo injection-associated trauma or the tattoo pigments and dyes (in their native state or after ultraviolet radiation alteration) or both have a carcinogenic impact on the development of the basal cell carcinoma at that location.”

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Symptoms of Basal Cell Carcinoma

Basal cell carcinomas usually develop on sun-exposed parts of your body, especially on the head and neck. A much smaller number occur on the trunk and legs. Basal cell carcinomas can also occur on parts of the body that are rarely exposed to sunlight. Although a general warning sign of skin cancer is a sore that won't heal or that repeatedly bleeds and scabs over, basal cell cancer may look like:

[Picture Credit: Basal Cell Carcinoma]



- A pearly white or waxy bump. In darker skinned people, this type of cancer is usually brown or black
- A flat, scaly, brown or flesh-coloured
- More rarely, a white, waxy scar

Bartos, V. 2019.

“An interesting clinical feature of basal cell carcinoma (BCC) of the skin is a marked variation in tumor number, sites, and accrual. Some individuals develop only a single BCC lesion with no impact on health status, while a significant proportion is affected repeatedly with new primary tumors at various body sites. Approximately 29% of patients with a first BCC will develop at least 1 more lesion during their lifetime. The candidate predictors for multiple BCC development include younger age and a superficial BCC subtype at the time of the first diagnosis, red hair phenotype, initial or frequent tumor location on the trunk or on the upper limbs, and male gender. The pathogenesis of multiple BCC development does not seem to be related to greater UVR exposure. Individual genetic susceptibility may have a greater impact than extrinsic factors. In clinical practice, it is meaningful to estimate the probability of new BCC development in patients who have an initial lesion. A reliable prediction model for individualized risk stratification remains a subject of continued research; however, a focus on the risk factor profile is beneficial for clinical screening and may help clinicians to determine the individuals who should be followed up more closely.”

Different Subtypes of Basal Cell Carcinoma

There are several different subtypes of Basal Cell Carcinoma that have been identified.

McDaniel, B., Badri, T. & Steele, R.B. 2020.

“Basal cell carcinoma (BCC), previously known as basal cell epithelioma, is the most common cancer in Humans. BCC mostly arises on sun-damaged skin and rarely develops on the mucous membranes or palms and soles. Basal cell carcinoma is usually a slow-growing tumor for which metastases are rare. Although rarely fatal, BCC can be highly destructive and disfigure local tissues when treatment is inadequate or delayed. On clinical examination, BCC usually appears as flesh- or pink-colored, pearly papules with overlying ulceration or telangiectatic vessels. BCC occurs on the head or neck in the majority of cases, but can involve the trunk and extremities. More than 26 different subtypes of BCC appear in the literature, but the more common, distinctive, clinicopathologic types include: nodular, micronodular, superficial, morpheaform, infiltrative and fibroepithelial (also known as fibroepithelioma of Pinkus). Combinations of these types can occur as well. The majority of BCCs are amelanotic, but variable amounts of melanin may be present within these tumors. The current mainstay of BCC treatment involves surgical modalities such as excision, electrodesiccation and

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curettage (EDC), cryosurgery, and Mohs micrographic surgery. Such methods are typically reserved for localized BCC and offer high 5-year cure rates, generally over 95%.”

Risk Factors for Basal Cell Carcinoma

- The following individuals are more likely to get basal cell carcinoma:
- Having a light-coloured skin
- Having a Freckled skin
- Blue, green, or grey eyes
- Blond or red hair
- daily sun exposure (such as the sun exposure people who work outside receive)
- Overexposure to X-rays or other forms of radiation
- Having many moles
- Many severe sunburns early in life (especially before age 18)
- Long-term

Laga, A.C., Schaefer, I.M., Sholl, L.M., French, C.A. & Hanna, J. 2019.

Objectives: Diagnosis of metastatic basal cell carcinoma (BCC) remains challenging, in part due to its rarity. With the advent of molecularly targeted therapies, recognition of this entity is more important than ever.

Methods: We identified 11 cases of metastatic BCC over a 13-year period. We analyzed these tumors in conjunction with their respective primary tumors by histomorphologic, immunohistochemical, and molecular genetic analyses.

Results: We identified three morphologic patterns of metastasis in BCC. The most common (seven cases) was characterized by completely typical features of BCC. Two cases showed marked squamous differentiation within BCC. The final two cases showed exclusively features of a poorly differentiated carcinoma. One of these was definitively classified by molecular analysis, as both the primary and metastatic tumors harbored the same inactivating PTCH1 mutation.

Conclusions: This study illustrates multiple distinct morphologic patterns in metastatic BCC and highlights the utility of ancillary molecular testing for accurate diagnosis.

Little, M.P., Linet, M.S., Kimlin, M.G., Lee, T., Tatalovich, A., Sigurdson, A.J. & Cahoon, E.K. 2019.

Background: Basal cell carcinoma of the skin (BCC) is the most common cancer in populations of European ancestry. Although consistently linked with basal cell carcinoma of the skin in case-control studies, few prospective cohort studies have evaluated the shape of the exposure-response of basal cell carcinoma associated with cumulative radiant solar ultraviolet exposure (UVR).

Methods: We followed 63,912 white cancer-free US radiologic technologists from entry (1983-1998) to exit (2003-2005) with known ultraviolet irradiance at up to 5 residential locations. Using generalized-additive and relative risk models we analyzed the exposure-response of basal cell carcinomas associated with ambient cumulative ultraviolet radiant exposure using ground-based National Solar Radiation database Average Daily Total Global data and satellite-based National Aeronautics and Space Administration Total Ozone Mapping Spectrometer data.

Results: There were 2151 technologists with an incident primary basal cell carcinoma. Risk of basal cell carcinoma rose with increasing cumulative ultraviolet radiation exposure using both measures, such that 1 MJ cm^{-2} increased basal cell carcinoma risk by 8.48 (95% CI 5.22, 11.09, $p < 0.001$) and by 10.15 (95% CI 6.67, 13.10, $p < 0.001$) per 10,000 persons per year using the Average Daily Total Global and Total Ozone Mapping Spectrometer ultraviolet data, respectively; relative risk was likewise elevated. There was some evidence of upward curvature in the cumulative ultraviolet exposure response using both exposure measures with a greater increase in risk of basal cell carcinoma at higher levels of ultraviolet radiation exposure, but less evidence for curvature in relative risk. There are indications of substantial variation of relative risk with time after exposure

and age at exposure, so that risk is highest for the period 10-14 years after ultraviolet radiation exposure and for those exposed under the age of 25.

Conclusions: We observed increases in risk of basal cell carcinoma and a similar exposure-response for ground-based and satellite ultraviolet radiation measures. Our observations suggest that interventions should concentrate on persons with higher levels of ultraviolet radiation exposure.

Reducing the Risk for Basal Cell Carcinoma

While BCCs and other skin cancers are almost always curable when detected and treated early, it is best to prevent them in the first place. Make these sun safety habits part of daily health care routine:

- Stay out of direct sunlight especially between 10:00 and 15:00
- Never stay in the sun until the skin burns
- Avoidance of tanning booths
- Wearing adequate protective clothing, including a broad-brimmed hat
- Wearing UV-blocking sunglasses (minimum UV400 protection)
- Use a broad spectrum 30 to 50 SPF according to skin colour
- Apply sunscreen at least 20 minutes before going out into the sun
- Reapply sunscreen every two hours including after swimming or excessive sweating
- Keep newborns out of the sun until at least 6 months of age
- Examine the skin head-to-toe every month
- See a doctor or other qualified health professional every year for a professional skin examination
- Avoid surfaces that reflect light more, such as water, sand, concrete, and white-painted areas

Bijlsma, M.F. & Roelink, H. 2017.

“UVR in sunlight causes mutations that drive basal cell carcinomas. However, the incidence of these tumors plateaus with prolonged exposure, but the incidence of other skin cancers increases. Makarova et al. now show that vitamin D₃ produced in the skin by UVR protects against its oncogenic effects by inhibiting Hedgehog signaling, whereas dietary vitamin D₃ does not.”

Five Warning Signs of Basal Cell Carcinoma

Frequently, two or more of features are present in one tumour. In addition, BCC sometimes resembles non-cancerous skin conditions such as psoriasis or eczema. Only a trained physician or health care professional, such as an oncology nurse or specialist in diseases of the skin, can determine for sure. If any of the warning signs are observed or some other worrisome change in the skin is noticed, one should consult a physician immediately.



A scar-like area that is white, yellow or waxy, and often has poorly defined borders; the skin itself appears shiny and taut. This warning sign may indicate the presence of an invasive BCC that is larger than it appears to be on the surface.

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An open sore that bleeds, oozes, or crusts and remains open for a few weeks, only to heal up and then bleed again. A persistent, non-healing sore is a very common sign of an early BCC.



A reddish patch or irritated area, frequently occurring on the face, chest, shoulders, arms, or legs. Sometimes the patch crusts, and it may also itch. At other times, it persists with no noticeable discomfort.



A shiny bump or nodule that is pearly or translucent and is often pink, red, or white. The bump can also be tan, black, or brown, especially in dark-haired people, and can be confused with a mole.



A scar-like area that is white, yellow or waxy, and often has poorly defined borders; the skin itself appears shiny and taut. This warning sign may indicate the presence of an invasive BCC that is larger than it appears to be on the surface.

Diagnosis of Basal Cell Carcinoma (BCC)

Basal Cell Carcinoma of the skin can be mistaken for other, more benign lesions. The only way to accurately diagnose basal cell carcinoma (BCC) of the skin, is with a skin biopsy. In the event of any skin changes, one should visit a dermatologist for an accurate assessment.

Lang, B.M. & Grabbe, S. 2020.

“Basal cell carcinoma is the most common type of cancer in Central Europe and has a high medical relevance. Due to its high tendency of recurrence, an important parameter in the planning of therapy is the risk of recurrence. After clinical and histological diagnosis, the majority of tumors are treated surgically, although radiation and topical procedures are also possible therapeutic alternatives in certain constellations. Hedgehog inhibitors, a completely new class of substances, have recently been approved for rare metastatic and locally advanced diseases, thus significantly expanding the range of treatments. This article provides an overview of the current guideline-based diagnosis and therapy of basal cell carcinomas in Germany.”

Peris, K., Fagnoli, M.C., Garbe, C., Kaufmann, R., Bastholt, L., Seguin, N.B., Bataille, V., Marmol, V.D., Dummer, R., Harwood, C.A., Hauschild, A., Höller, C., Haedersdal, M., Malvey, J., Middleton, M.R., Morton, C.A., Nagore, E., Stratigos, A.J., Szeimies, R.M., Tagliaferri, L., Trakatelli, M., Zalaudek, I., Eggermont, A., Grob, J.J.;&European Dermatology Forum (EDF), the European Association of Dermato-Oncology (EADO) and the European Organization for Research and Treatment of Cancer (EORTC). 2019.

“Basal cell carcinoma (BCC) is the most common malignant tumour in white populations. Multidisciplinary experts from the European Dermatology Forum, the European Association of Dermato-Oncology and the European Organization of Research and Treatment of Cancer collaborated to develop recommendations on diagnosis and treatment of BCC. A new classification into 'easy-to-treat (common) BCC and 'difficult-to-treat' BCC is proposed. Diagnosis is based on clinicodermatologic features for 'easy-to-treat' BCCs. Histopathological confirmation is mandatory in ambiguous lesions and in BCCs located in high-risk areas. The first-line treatment of 'easy-to-treat' BCC is complete surgery. Microscopically controlled surgery shall be offered for high-risk BCC, recurrent BCC and BCC in critical anatomical sites. Topical therapies (5% imiquimod, 5% fluorouracil) and destructive approaches (curettage, electrocautery, cryotherapy, laser ablation) should be considered in patients with low-risk superficial BCC. Photodynamic therapy is an effective treatment for superficial BCC and thin nodular BCC. The therapy for a 'difficult-to-treat' BCC should preferentially be discussed by a multidisciplinary tumour board. Hedgehog inhibitors, vismodegib or sonidegib, should be offered to patients with locally advanced and metastatic BCCs. Immunotherapy with anti-programmed cell death 1 (PD-1) antibodies is a promising therapeutic option, currently being investigated in clinical trials. Radiotherapy represents a valid alternative to surgery for BCC on the face, especially in elderly patients. In patients with naevoid basal cell carcinoma syndrome (NBCCS), close surveillance and regular skin examinations are required to diagnose and treat BCCs at early stage. Long-term follow-up is recommended in patients with high-risk BCC subtypes, high-risk sites, multiple BCCs and NBCCS.”

Stanoszek, L.M., Wang, G.Y. & Harms, P.W. 2017.

CONTEXT: Basal cell carcinoma (BCC) is the most common human malignant neoplasm and is a frequently encountered diagnosis in dermatopathology. Although BCC may be locally destructive, it rarely metastasizes. Many diagnostic entities display morphologic and immunophenotypic overlap with BCC, including nonneoplastic processes, such as follicular induction over dermatofibroma; benign follicular tumors, such as trichoblastoma, trichoepithelioma, or basaloid follicular hamartoma; and malignant tumors, such as sebaceous carcinoma or Merkel cell carcinoma. Thus, misdiagnosis has significant potential to result in overtreatment or undertreatment.

OBJECTIVE: To review key features distinguishing BCC from histologic mimics, including current evidence regarding immunohistochemical markers useful for that distinction.

DATA SOURCES: Review of pertinent literature on BCC immunohistochemistry and differential diagnosis.

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CONCLUSIONS: In most cases, BCC can be reliably diagnosed by histopathologic features. Immunohistochemistry may provide useful ancillary data in certain cases. Awareness of potential mimics is critical to avoid misdiagnosis and resulting inappropriate management.

Staging of Basal Cell Carcinoma

Staging is the process of determining whether cancer has spread and, if so, how far. It is important to know the stage of the disease in order to plan treatment.

Stages are numbered in Roman numerals between 0 and IV:

- **Stage 0.** Cancer is found only in the original tumour in the skin. Stage 0 is also called carcinoma *in situ*
- **Stage I.** The tumour is 2 centimetres wide or smaller.
- **Stage II.** The tumour is larger than 2 centimetres and may have spread from the epidermis into the dermis.
- **Stage III.** The cancer has spread to areas below the skin
-
- **Stage IV.** The cancer can be any size and has spread to distant lymph nodes or

Treatment of Basal Cell Carcinoma

Basal cell carcinoma very rarely spreads to other parts of the body, although it can grow into nearby tissues if not treated. Choice of treatment depends on factors such as the tumour size and location, the patient's age, general health, and preferences.

Treatment may include one or more of the following:

- Curettage and Electrodesiccation
- Simple Excision
- Mohs' surgery
- Radiation Therapy Immune Response Modifiers, Photodynamic Therapy, or Topical
- Targeted Therapy for Advanced Basal Cell

Dika, E., Scarfi, F., Ferracin, M., Broseghini, E., Marcelli, E., Bortolani, B., Campione, E., Riefolo, M., Ricci, C. & Lambertini, M. 2020.

"Basal cell carcinoma (BCC) is the most common type of carcinoma worldwide. BCC development is the result of a complex interaction between environmental, phenotypic and genetic factors. However, despite the progress in the field, BCC biology and mechanisms of resistance against systemic treatments have been poorly investigated. The aim of the present review is to provide a revision of BCC histological and molecular features, including microRNA (miRNA) dysregulation, with a specific focus on the molecular basis of BCC systemic therapies. Papers from the last ten years regarding BCC genetic and phenotypic alterations, as well as the mechanism of resistance against hedgehog pathway inhibitors vismodegib and sonidegib were included. The involvement of miRNAs in BCC resistance to systemic therapies is emerging as a new field of knowledge."

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Fania, L., Didona, D., Morese, R., Campana, I., Coco, V., Di Pietro, F.R., Ricci, F., Pallotta, S., Candi, E., Abeni, D. & Dellambra, E. 2020.

“Basal cell carcinoma (BCC) is the most common human cancer worldwide, and is a subtype of nonmelanoma skin cancer, characterized by a constantly increasing incidence due to an aging population and widespread sun exposure. Although the mortality from BCC is negligible, this tumor can be associated with significant morbidity and cost. This review presents a literature overview of BCC from pathophysiology to novel therapeutic approaches. Several histopathological BCC subtypes with different prognostic values have been described. Dermoscopy and, more recently, reflectance confocal microscopy have largely improved BCC diagnosis. Although surgery is the first-line treatment for localized BCC, other nonsurgical local treatment options are available. BCC pathogenesis depends on the interaction between environmental and genetic characteristics of the patient. Specifically, an aberrant activation of Hedgehog signaling pathway is implicated in its pathogenesis. Notably, Hedgehog signaling inhibitors, such as vismodegib and sonidegib, are successfully used as targeted treatment for advanced or metastatic BCC. Furthermore, the implementation of prevention measures has demonstrated to be useful in the patient management.”

Basset-Seguin, N. & Herms, F. 2020.

“Basal cell carcinomas are the most frequent skin cancers in the fair-skinned adult population over 50 years of age. Their incidence is increasing throughout the world. Ultraviolet (UV) exposure is the major carcinogenic factor. Some genodermatosis can predispose to formation of basal cell carcinomas at an earlier age. Basal cell carcinomas are heterogeneous, from superficial or nodular lesions of good prognosis to very extensive difficult-to-treat lesions that must be discussed in multidisciplinary committees. Recent guidelines have updated the management of basal cell carcinoma. The prognosis is linked to the risk of recurrence of basal cell carcinoma or its local destructive capacity. Characteristic molecular events in these tumours are: (i) activation of the hedgehog pathway, which has allowed the development of hedgehog inhibitors for difficult-to-treat lesions that are not accessible to surgery or radiotherapy; (ii) high mutational burden, which suggests that hedgehog inhibitor refractory tumours could be offered immunotherapy; some trials are ongoing. The standard treatment for most basal cell carcinomas is surgery, as it allows excision margin control and shows a low risk of recurrence. Superficial lesions can be treated by non-surgical methods with significant efficacy.”

Keah, S.H. & Mg, S.C. 2020.

“Basal cell carcinoma (BCC) is a common disease of the skin caused principally by prolonged solar radiation exposure. It is normally a malignancy with favorable prognostic features and is potentially curable by standard excision. In White populations with high disease incidence, general practitioners (GPs) play a vital role in diagnosing and managing BCC, including surgical excision. Dedicated care at the primary care level by adequately trained GPs is conceivably cost effective for the health system and more convenient for the patient. In Asia and other parts of the world with low incidence, this valuable role of GPs may appear to be inconsequential. In this regard, any justification for the involvement of local GPs in BCC surgery is debatable. This article aims to provide a clinical update on essential information relevant to BCC surgery and advance understanding of the intricate issues of making a treatment decision at the primary care level.”

Case report: Madam Tan, a 71-year-old Malaysian Chinese lady, otherwise healthy, presented to her local GP with a complaint of a nodule over the left cheek that had been there for more than a decade. Her concern was that the lesion was growing and had become conspicuous. She had spent most of her life as a farmer working in her orchard. Upon examination, she had an obvious dome-shaped nodule over the left cheek measuring approximately 1.8 cm in diameter. The lesion was firm,

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pigmented, well-demarcated, and slightly ulcerated at the top. Clinically, she was diagnosed with a pigmented nodular basal cell carcinoma of the left cheek. Examination of the systems was unremarkable. She requested that the consulting GP remove the growth. The cost for specialist treatment and waiting time at the local hospital were her concerns.

Clinical questions: Can the basal cell skin cancer be excised safely and effectively in the local primary care setting? What are the crucial preoperative concerns?

Quazi, S.J., Aslam, N., Saleem, H., Rahman, J. & Khan, S. 2020.

“Skin cancer is one of the most common cancers in the world and consists of melanoma and non-melanoma skin cancer (NMSC). Basal cell carcinoma (BCC) and squamous cell carcinoma (SCC) are the most common non-melanoma skin cancers. The ideal surgical treatment for BCC is complete removal, and it can be achieved either with safety margins or with micrographic control. The currently accepted treatment for basal cell carcinoma is an elliptical excision with a 4-mm surgical margin of clinically normal skin. However, because of cosmetic and functional constraints on the face, a 4-mm surgical margin is often not feasible. We used PubMed, PubMed Central (PMC), and Google scholar as our main databases to search for the relevant published studies and used "Basal cell carcinoma" and "narrow excision margins" as Medical Subject Headings (MeSH) keywords. Fifteen studies were finalized for the review, which included 3843 lesions. The size of the lesions ranged from 3 to 30 mm, with a mean size of 11.7 mm. Surgical margins varied from 1 to 5 mm. This review was done to evaluate if small, well-defined primary BCCs can be excised using narrow surgical margins. Based on the reviewed literature, we found that for primary well-demarcated BCCs smaller than 2 cm, in the low-risk group, a safety margin of 3 mm gives satisfactory results. In the high-risk group, and for lesions larger than 2 cm, a 4-6 mm margin is suggested for getting clear margins. Mohs micrographic surgery is advocated for more complex and recurrent lesions where the clinical margin is not apparent. However, micrographic surgery is not readily available in many places and requires more training and experience. Therefore, excision with 2 mm margins for clinically well-defined lesions with close follow-up can be followed to preserve the healthy tissue in anatomic constraint lesions and avoid the need for complex reconstructive procedures.”

Brancaccio, G., Pea, F., Moscarella, E. & Argenziano, G. 2020. Sonidegib for the Treatment of Advanced Basal Cell Carcinoma. *Front Oncol.* 2020 Oct 30;10:582866.

“Basal cell carcinoma (BCC) accounts for almost 80% of skin cancers, and its healthcare workload burden is substantial within dermatology departments. Although most BCCs are small, well-defined tumors amenable of surgery or conservative procedures, in a small proportion of patients, BCCs can progress to an advanced stage including locally advanced BCC. The goal of the clinician in the treatment of BCC should be the right therapeutic approach at diagnosis, and different guidelines propose treatment strategies in order to prevent relapses or disease progression. In case of unresectable and untreatable BCC with radiotherapy, the first-choice medical therapy is Hedgehog-GLI (HH) pathway inhibitors. Sonidegib was approved by the U.S. Food and Drug Administration (FDA) and European Medicines Agency (EMA) as a first-line treatment for adult patients with locally advanced BCC, becoming the second HH pathway inhibitor receiving approval after vismodegib. In this review, data on pharmacology, safety, tolerability, and efficacy of sonidegib are summarized and compared to those of vismodegib. Lastly, indications on the management of advanced basal cell carcinoma based on author's clinical experience are provided.”

Complications of Basal Cell Carcinoma

Complications of basal cell carcinoma may include:

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- A risk of
- An increased risk of other types of skin
- Cancer that spreads beyond the

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Basal Cell Carcinoma

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Stanford Cancer Institute

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