CURRENT APPROACH TO EYELID BASAL CELL CARCINOMA

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ABSTRACT

Cancer begins when normal cells change and grow uncontrollably, forming a mass called a tumor. A tumor can be benign (noncancerous) or malignant (cancerous, meaning it can spread to other parts of the body). Eyelid cancer is a general term for a cancer that occurs on or in the eyelid and is broadly categorized as an epithelial (outer surface) tumor. An eyelid tumor can begin from sebaceous (fat), sweat, or apocrine glands (a type of sweat gland). The most common types of cancer occurring on the eyelid are:Basal cell carcinoma, under the squamous cells (flat, scale-like cells) in the lower epidermis (outer layer of skin) are round cells known as basal cells. About 80% of skin cancers arise from this layer in skin, and they are directly related to exposure to the sun. Basal cell carcinoma is the most common type of eyelid cancer, usually appearing in the lower lid and occurring most often in individuals with fair or pale skin.This article brings the current approach of clinical features, differential diagnosis, pathogenesis, management options and prognosis, competitively with developed western clinicians.

Key words: *eyelid tumor, benign, malignant, basal cell carcinoma*

GENERAL CONSIDERATIONS

Basal Cell Carcinoma (BCC) is the most common malignant tumor of the skin, according to the recent data about 400,000 patients treated yearly in the United States [1]. BCC It occurs mainly in the head and neck region, frequently originates in the eyelids, and accounts for 90% of malignant eyelid tumors in North America [1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20]. It usually occurs in fair-skinned adults between 50 and 80 years of age. BCC can develop in younger patients, especially those who have predisposing lesions like nevoid BCC syndrome, nevus sebaceous of Jadassohn, or xeroderma pigmentosum.

Unfortunately, in Albania there is not a concrete data and statistics to bring the precise prevalence, however in clinical practice we face BCC as commonly as our western counterparts.

CLINICAL FEATURES

Although percents vary from series to series, our experience suggests that eyelid BCC arises on the lower eyelid about 65%, medial canthus 15%, upper eyelid 15%, and lateral canthus 5%. It is usually painless, but more invasive BCCs can invade the neighboring nerves in the eyelids and orbit, causing pain [1]. There are several clinical variations that can affect the eyelid, including nodular, nodulo ulcerative, pigmented, cystic, morpheaform, and superficial varieties [1,2,3,11]. The hallmark of most lesions is the pearly, waxy, or translucent nature of the tumor, best seen on the rolled borders. Telangiectasia, mainly near the borders of the lesion, is a characteristic and consistent finding. When located near the eyelid margin, BCC typically causes loss of cilia over the area of involvement. The two most important types that occur on the eyelid are the nodular or noduloulcerative and the morpheaform types. More than 80% of eyelid BCCs are of the nodular or noduloulcerative type [12,17].

It appears initially as a sessile or dome-shaped translucent lesion that gradually enlarges, fig1and 2. As it enlarges, the central part of the lesion outstrips its peripheral blood supply, and ulcerates to form the common noduloulcerative variant. The ulcerated lesion may sometimes bleed. Morpheaform or sclerosing BCC is less common, comprising only about 2% of BCCs [12]. It appears as a pale, relatively flat lesion with clinically ill-defined margins. Because there is no distinct tumor, it is often misdiagnosed as blepharitis for a period of time.Neglected or inadequately treated BCC, particularly the morpheaform type, can be highly invasive and extend into the lacrimal drainage system, orbit, and even the cranial cavity. Orbital invasion generally produces diplopia or displacement of the globe, but proptosis is uncommon. Spontaneous regression of BCC is rare [18].

Fig.1.

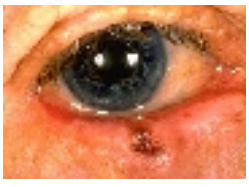
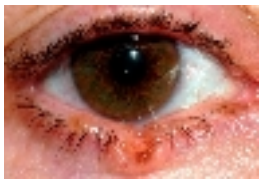


Fig.2.



DIFFERENTIAL DIAGNOSIS

Most of the lesions discussed in this section can mimic BCC and their clinical features are discussed elsewhere.
Keratoacanthoma also shows ulceration but has a more rapid onset and progression.
Pigmented BCC must be differentiated from melanocytic nevus, melanoma, and seborrheic keratosis [11].
The cystic type can resemble eccrine or apocrine hydrocystoma.

PATHOLOGY AND PATHOGENESIS

Histopathologically, BCC can assume any of several variations. The circumscribed noduloulcerative lesion typically shows distinct lobules, nests, or cords of well-differentiated basal cells, separated by connective tissue. The tumor cells typically show parallel alignment at the periphery of each lobule, forming the so-called peripheral palisading. The stroma usually shows shrinkage around the lobule, inducing a characteristic clear cleft. The morpheaform type shows ill-defined tumor cells that characteristically lack peripheral palisading and buds or strands of tumor extend for variable distances into the dermis. There is intense stromal fibrous proliferation[10].

Age, light skin, sunlight exposure, arsenic exposure, scars, prior irradiation, and immunosuppression are all believed to be factors that can predispose to development of eyelid BCC. Heredity also plays a role in patients with nevoid BCC syndrome and xeroderma pigmentosum, as mentioned. The relationship to the nevus sebaceous of Jadassohn was also mentioned. Cigarette smoking has been implicated as a predisposing factor in women, but not men [19]. A recent report suggested that chronic infection of the pilosebaceous follicle by the mite Demodex folliculorum may also be a pathogenetic triggering factor [20].

Demodicidosis is very common and more studies are needed to verify those observations.

Cytologically, BCC is believed to arise from pluripotent stem cells that develop throughout life and are associated with basal cells of the epidermis and external root sheath of hair follicles. It is not believed to arise from mature differentiated basal cells [13].

MANAGEMENT OPTIONS AND PROGNOSIS

The goal of management of eyelid BCC should be to achieve complete tumor control, even if treatment compromises cosmetic appearance. For small lesions, complete resection down to the subcutaneous region with frozen section proof of tumor-free margins is performed [21]. Primary closure or reconstruction with cutaneous flaps and grafts allows for cosmetic rehabilitation, fig 3 and 4. In cases where the wound is not readily amenable to primary closure, such as those located in the medial canthal area, the wound can heal spontaneously if left open. This laissez-faire approach can lead to satisfactory cosmetic and functional results in .90% of cases [22].

For larger lesions suspected to be BCC, a small incisional or punch biopsy may provide adequate tissue for histopathologic diagnosis before embarking on wider surgical excision and

reconstruction. After confirmation of the diagnosis, wide excision and frozen section control or Mohs chemosurgery offer the best control rates [21]. In some cases that are not readily amenable to surgical resection, cryotherapy can help to achieve good tumor control [9].
Some authors have advocated cryotherapy as the preferred primary treatment for small BCCs [23]. Radiotherapy is generally reserved as palliative treatment for aggressive recurrent lesions or for patients who are physically unable to undergo surgery. When eyelid BCC invades the orbit, nasal cavity, or brain, radiotherapy is sometimes the only remaining therapeutic option. If BCC is neglected or not completely excised, it can invade the orbit, nasal cavity, and brain [24]. If recurrence with orbital extension is suspected, computed tomography (CT) and/or magnetic resonance imaging (MRI) should be performed; if unresectable orbital tumor is found, orbital exenteration may be the best treatment [24].

Fig.3.

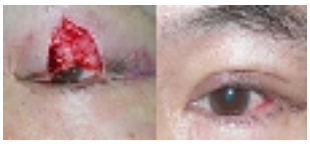


Fig. 4

Orbital exenteration is necessary in 1% of eyelid BCCs. Other methods used to treat extraocular BCC include curettage and electrodessication, photodynamic therapy, interferon, topical neomycin, and local or systemic chemotherapy. These methods have not been widely accepted for BCC. There has been recent interest in the use of topical imiquimod cream to treat selected cases of extraocular BCC and it may have a future role in treatment of other eyelid lesions [35]. BCC almost never exhibits distant metastasizes despite the fact that it can invade lymphatic channels [1,10]. However, incomplete removal can be associated with aggressive recurrence, leading to a poorer cure rate. Neglected or incomplete initial excision can result in orbital invasion and rarely death can ensue due to intracranial invasion via emissaries in the orbital bone. Mortality from eyelid BCC is probably less than 1%.

Nevoid Basal Cell Carcinoma Syndrome

The basal cell nevus syndrome, also known as the Gorlin-Goltz syndrome, or Goltz syndrome, deserves special mention. It is a multisystem, autosomal-dominant syndrome involving both ectoderm and mesoderm tissues [6,7]. In some cases, it is due to an abnormal PTCH (patched) gene on chromosome 9q22.3-q31 [33,34]. It occurs more commonly in males. Typically, the affected patient develops postpubertal onset of multiple BCCs. The associated findings can include odontogenic keratocysts, palmar and plantar pits (which may represent forms frustes of BCC), ectopic calcification of the falx cerebri, and skeletal abnormalities such as bifid ribs and, rarely, other tumors like medulloblastoma and meningioma. Other less common ocular abnormalities include congenital cataracts, uveal and optic nerve coloboma, strabismus, nystagmus, and microphthalmos.

It is estimated that 0.7% of patients with BCC have this syndrome. Patients may have only a few to thousands of BCCs. The lesions are often red-brown and vary in size from 1 to 10 mm. They may be pedunculated, pigmented, nodular, erythematous, or ulcerative. There were 4 cases in our series of 105 patients with eyelid BCC [7]. There is a predilection for the BCCs to occur on the

face, including the eyelids [5]. Clinically and histopathologically the lesions seen with nevoid BCC syndrome are similar to standard BCCs [11].

Management of the BCCs associated with nevoid BBC syndrome are similar to that described for other BCCs. It is important to treat BCCs in this syndrome when they are small with surgical excision or other approaches mentioned. There is a report of very successful treatment of diffuse BCCs and basaloid follicular hamartomas in nevoid BCC syndrome by wide-area 5-aminolevulinic acid photodynamic therapy [34].

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