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Research Article

Basal Cell Carcinoma of the Skin: Personal Experience in Albania

Healthcare

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Abstract

Basal cell carcinoma (BCC) is the most frequent epithelial tumor of the skin, characterized by a local infiltrative growth in contrast to a very rarely metastatization. In rare cases this neoplastic process behaves aggressively with deep invasion and high recurrence risk after surgery. The pathogenesis and the factors that determine the extensive growth are not completely understood. The American Joint Commettee on Cancer published on 1988 the morphologic characteristics necessary to define a BCC. In this paper the Authors give an accurate review of scientific literature on skin Basal Cell Carcinoma (BCC) and report their experience on this neoplastic form in Albania.

Introduction

Basal Cell Carcinoma (BCC) is the most frequent non-melanoma skin tumor. The incidence increase is distributed in not uniform way; USA and Australia present the great rate (30%).

The risk of developing a BCC in patients with prior BCC is estimated at 44% in three years. The neoplasm is most commonly diagnoses in older (age range 40-80), fair skinned individual but in literature are reported numerous cases onset in young or in other races.

The etiopathogenesis of BCC is linked to a spontaneous mutation of PTCH gene situated in chromosome region 9q22.3. In literature are described numerous genetic disorders associated to basal cell carcinoma (Gorlin Syndrome, Xeroderma pigmentosum). Enviromental factors, as sun exposition, trauma or smoking, play an important role in the tumor development.

The tumor on sets most frequently in the middle part of the face and scalp, even that it can develop on all sun exposed skin.

BCC is characteristically composed by small basaloid cell with an oval, monomorphous nucleus, organized in cluster that invades normal tissue, generally grows slowly and behaves in a relatively benign, less aggressive fashion. Aim of this study is to review the available literature on BBCs and describe the Author personal series.

Materials and Methods

Literature review

Articles pertaining to Basal Cell Carcinoma of the skin were identified by performing a literature search using the National Library of Medicine's PubMed, The Cochrane Collaboration. The following search terms were used: "Giant Basal Cell Carcinoma", "BCC", "Aggressive basal cell carcinoma" and "Metastatic BCC". All references pertaining to this pathology were retrieved and were individually examined and the result are reported in table 1 and follow discussed.

Personal experience

Between April 2013 and March 2015, 100 patients with BCC were treated in the Department of Plastic and Reconstructive Surgery of Tirana. According to the AJCC classification, 85 tumors were T1 (85%), 13 tumors were T2 (13%) and 2 were T3 (2%) of this is larger than 6 cm.

The time between tumor occurrence and diagnosis correlated with size. BCC were associated with lesion presence between five and ten years.

All patients, except three, received surgical excision of neoformation and immediate reconstruction.

In four cases we performed the regional lymphadenectomy. No lymph node metastasis were found. In three of four BCC of medial cantus, in one of nasolabial fold, and in two case of morpheaform bcc. In five non surgical cases (all BCC were located in face), two patients were in no good health conditions and were referred to dermatologic department to receive a PDT (lost to follow-up). One patient, affected by superficial BCC, refused surgical excision and was treated with Laser CO_2, but after many attempts to have patient return for treatment, he was lost to follow-up; and four refused any treatment for aesthetic reasons. One not received treatment because he died for complications of concomitant colon carcinoma. Skin grafts and local flaps were used for reconstruction.

Risk factor

Traditionally some clinical features are strongly linked to an aggressive phenotype of BCC.

Large size, facial location, neglect or long standing tumor are reported as important factor for BCC development. Large size at first examination plays an important role on prognosis: Vico et al suggested that 1cm size is the limit over which the malignant behavior changes. Usually large size is the result of long standing tumors or a rapid grow due a particular histotype.

Not completely clear is the link with the onset in the middle face area, as reported in many works the tumor development on medial cantus or on the naso-labial fold are characterized by a more aggressive course. This may stem from the close proximity of the skin to the bone and cartilagineous structures.

Incomplete excision is consider as a risk factor due to the presence of scar tissue, which obscure monitoring and delays clinical detection of recurrence, but J.D. Richmond et al. reports that there aren't evidences that inadequate treatment modifies the tumor behavior.

Recently some author focus the attention tension on histologic variant and on particular features as perivascular and perneural invasion.

Nodular and superficial BCC are the varieties of neoplasm tending to be less aggressive, morpheaform, infiltranting are associated with high risk of Basal Cell Carcinoma development.

As reported previously, the last features underlining an aggressive behavior is the invasion of vascular and nervous structure. These hystologic finding are extremely rare to be identify: as reported in literature the perivascular diffusion may contribute to tumor extension by increasing the neoplastic tissue trophism. Instead the neuronal involvement, present in the 10% of aggressive Bcc, is considering a risk factor for rapid diffusion due the low resistance cleavage plane along the nerve fiber.

Other hystologic aspect, that may be consider as minor criteria are: inflammatory infiltrate, fibrosis, palisadism and increased of mitotic rate. Appear intuitive that a high number of mitotic figures is linked to a rapid cellular turnover, but the role of inflammatory infiltration have to be clarify.

Genetic and biology of BCC

The pathogenesis of this skin tumor is linked to a mutation of the PTCH gene mapped on chromosome 9q22.3. This gene plays an important role in embryo development. PTCH is a receptor protein in the Sonic Hedgehog pathway that acts negatively on this signal cascade and as a tumor suppressor gene.

Germline mutations are correlated with syndromic conditions such as NBCCS, but somatic mutations can be found in sporadic BCC.

The metastasis rate for BCC ranges from 0.003 to 0.55%. The interval to metastasis is approximately nine years. Lymph nodes (40-83%) are the most frequent site of metastasis followed by lung (35-53%), bone (20-28%), skin (10-17%) and liver (9%).

Is common opinion that the involvement of contiguous structure not be consider as metastasis but the extension of primitive tumor.

Metastases occur in males and females in a 2:1 ratio and the estimated media survival after metastases range from 8 to 14 month.

Discussion

Basal cell carcinoma is the most common skin cancer that predominantly occurs on sun-exposed and sun-damaged areas. BCC generally demonstrates a relatively innocuous course, with slow growth and only minimal local invasion. Occasionally it demonstrates an aggressive phenotype with local invasion, destroying nearby structures with resultant loss of function. The incidence of BCC is increasing rapidly, such that the lifetime risk of developing it is above 30 percent.

Basal cell carcinoma arise from the pluripotential epithelial cell of the epidermis and grows at a rate of 1mm in diameter per year but, as shown by Ono et al.maggressive BCC can increase their dimension more quickly.

We think that an high rate like our report is linked to the advanced average age of our patient, to the geographic position, their job (farmer, bricklayer, etc) and to their lower scholastic profile.

Are authors thinking that the more important risk factor is the neglect of the clinical feature?

As emerges from our series and from literature review, the biggest tumor had been developed four-seven years before the diagnosis. This delay became longer in the small community there the skin problems are not correctly estimate and receive an inadequate treatment with a recurrence rate approximately of 12%.

In literature spontaneous regression of incompletely excised small BCCs are reported to be a common phenomenon.

In five of non complete resection, in our series, we observe the recurrence of BCC just 2 months from surgery. In 1 case the skin graft was rejected in the residual neoplastic area allowing to us reach the radicality with a second surgical time.

In the second half of '900 some authors proposed a list of criteria to define a BCC as metastatic:

1. The primary lesion exists in skin and not in mucosa,
2. Metastases occur at a distant site and are not the result of extension from primary lesion,
3. Histology for the primary and metastatic lesion should be similar,
4. Squamous cell features must not be present in the lesion.

In our patients there aren't cases of diffuse pathology, in fore lumpectomy's we didn't found neoplastic infiltrate. We observed two deaths not for metastasis but for the involvement of intracranial structures secondary to the surgical treatment refuse by patient. This an open problem in oncologic surgery, more patients refuse surgery because doesn't understand the problem or refuse the scar.

As reported by patients, during the early form, theses lesion are painless and doesn't create disturbance specially when located in the trunk. In cases of face involvement the patient is referred to the surgeon when the tumor reached great dimension, compromises the involved structures functions and the smell tissue affects the social life.

Sherman J.E. et al describes a typical case in which the patient refused surgery for esthetic reasons despite the presence of an oncologic disease. This situation often results in an unacceptable delay in treatment and a consequent necessity to perform a more radical and destructive curative procedure.

Informed consent is recognized as a key component of the doctor-patient relationship. During any patient interview, the physician must discuss the benefits and the risks of the proposed procedure, as well as the consequences of treatment refusal and the likely prognosis. Nevertheless, some patients will refuse treatment, resulting in surgeon frustration.

Physicians must remember that a patient may refuse surgery as long as they are able to understand the outcome of their decision and are able to act in their own best interest. A competent patient has the right to refuse any treatment, even if it will shorten their life, and to instead choose suboptimal treatment as an option if they feel it provides the best quality of life. It is not uncommon for people with chronic or severe illnesses to refuse treatment, even when that decision is going to result in their death.

Is commonly accepted that surgery is the first choice to treat Basal Cell Carcinoma. For small BCC (1-2cm), the surgical excisions require clinical margin of 3-5mm and the recurrence risk in this tumor is 4%-14%.

Actually the gold standard is to perform a one-step or two-step surgery. In one step surgery the surgical defect is close directly and the reconstructive procedure is definitive. The problems associate with this surgery is the health margin control. One step surgery, using Mohs Micrographic surgery, affords superior clinical outcomes, with a five-years tumor-free rate of over 99% for primary BCC and over 95% for recurrent BCC, compared to the rate of 93% and 80% respectively for other interventions.

Howevar, some authors prefer a delayed reconstruction and the final defect closure is done only after the definitive histopathological answer is given.

Extended surgery with the resection of important structure, like bone, dura mater or nervous structure, result in a complex defect that can lead to the lethal outcome. Reconstruction became an interdisciplinary procedures involving plastic surgeon, neurosurgeon, vascular surgeon anaesthesiologist and other.

The reconstructive procedure can vary from split skin graft to free flap transfer. The choice is linked to the BCC position, the donor site availability and the patient general health condition. In BCC less than 2cm we prefer to have reconstruction with Skin graft o local cutaneous flap. In front of Giant one the reconstructive became a challenge, particularly when lesion occurs in aesthetically or functionally sensitive areas, so we obtain reconstruction using composite flaps.

According to the literature, the surgical procedures, not followed by histological control, such us cryosurgery, elettrodissecation, Laser CO_2, have an high risk of recurrence.

Chemotherapy or radiotherapy is quite effective for disease control.

In particular radiotherapy may result in increasing risk of delayed healing or pathologic scar. Radiation therapy can be considered as adjuvant or palliative option.

The relatively recent introduction of non-surgical tissue sparing treatment modalities for BCC shows potential application in the management of giant basal cell carcinoma. As reported by Madan et.al these procedures may aid in obtaining adeguate margin clearance during the surgical excision.

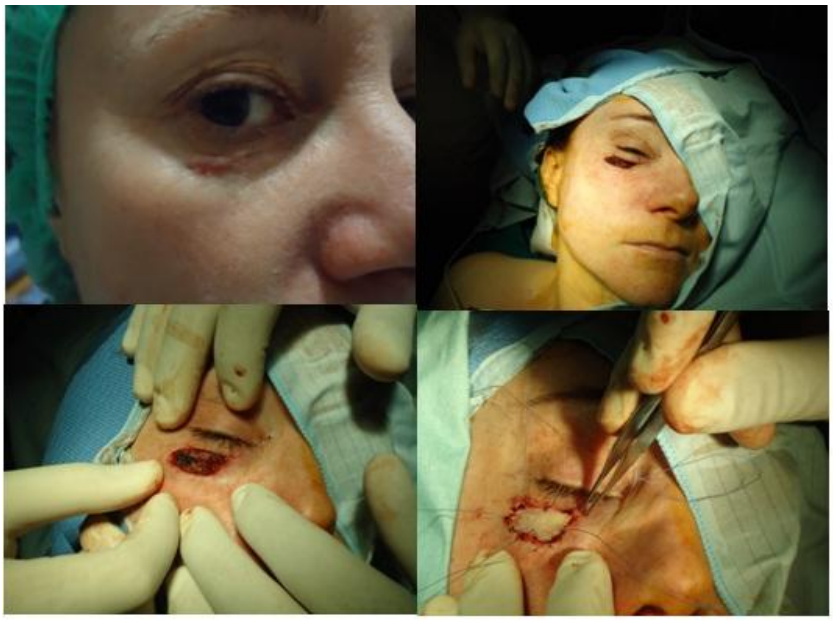
In our practice we reserve non surgical treatment only in case in which patient refuse the surgical excision or when the general and local conditions not allow an aggressive procedure.

Conclusions

Basal Cell Carcinoma is a variant of non melanoma skin cancers that grew to a very large size because patients admittedly neglected seeking treatment. Neglect may be the result of denial, cognitive impairment (psychiatric disorders) or patients awareness based on educational background in Albania. Collected data from our personal experience, according with the literature review, demonstrate that early diagnosis on association with the correct treatment is the only strategy to have a good prognosis of the disease.

Figure 1

50 year female patient with BCC of lateral canthus and temporal area. Mohs micrographic surgical defect. Following split-thickness skin graft.



68-year-old male patient with ulcerated BCC broadly involving temporal, auricular and retroau- ricular regions

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