

Anatomo-clinical aspects of the basal cell carcinoma at the level of the cephalic end

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Abstract

More than one third of all diagnosed cancer cases from all over the world are skin cancers, and the majorities are basal cell carcinomas. The incidence of skin tumors around the world is growing, the main concern being the increased frequency of skin tumors among young persons. Therefore, an early detection is required, starting with the general practitioner, dermatologist, oncologist, plastic surgeon and not least, the pathologist. We studied a sample consisting of 149 patients diagnosed with basal cell carcinoma at the level of the cephalic end and neck, all of them undergoing surgery – surgery individualized for each case. Some cellular and molecular modifications also resulted from infecting the cells with high carcinogenic risk HPV, considered by some scientists as responsible for the developing and progression of some neoplasias, including melanocytes and non-melanocytes skin tumors.

Keywords: basal cell carcinoma, anatomo-clinical aspects, histopathological exam, papillomavirus.

Introduction

BCC is the most frequent skin cancer form, affecting, every year, millions of people around the world. In fact, BCC is the most frequent type of cancer among humans, representing 30–40% of the total of skin neoplasia, and the tendency is of increased incidence. The ratio of BCC and SCC incidence is 4:1 [1].

The highest rate of basal epithelium appearance is of 1600/100 000 residents in Australia, and its incidence is growing every year by 2%. In Europe, the incidence is of 150/100 000 residents [3], and it presents large variations according to the geographic area. The highest BCC incidence rate was observed in Great Britain (128/100 000 men and 105/100 000 women), and the lowest, in Slovakia (38/100 000 men and 29.2/100 000 women). In Australia, the incidence of this neoplasia reaches high values, respectively 1173–2074/100 000 men and 629–1579/100 000 women [2].

In Romania, the incidence of BCC is not known exactly. Keeping clear records of all BCC patients would allow the exact appreciation of the social and financial impact of skin tumors on society. All of these would lead to implementing a surgical treatment and common adjuvant, no matter the geographic area, but one that would consider the histopathological staging of the excised lesion.

In Romania, the number of new skin cancers was, in 2010, 1765 new cases, with 32 580 already in the records. The increased incidence of the BCC among those past the age of 50 years is something to expect, due to the

favorable factors, but, lately, it was determined an incidence growth among younger females, fact that raises question marks regarding the causes of the BCC [4].

Patients, Methods and Results

In the present study, we synthesized the main data regarding the BCC, based on the browsed matters, compared to the ones obtained from personal clinical activity and to the retrospective study of the observation papers of the patients hospitalized at the Plastic Surgery and Reconstructive Microsurgery Clinic, Bucharest, Romania, in order to compare similarities and differences in addressing the surgical treatment of these pathologies, encountered at the level of the cephalic end and neck.

We have studied a sample consisting of 149 patients diagnosed with BCC at the level of the cephalic end and neck; the patients were ambulatory treated or hospitalized at the Department of Plastic Surgery and Reconstructive Microsurgery, "Bagdasar-Arseni" Clinical Emergency Hospital, Bucharest, within a 5-year period (January 1, 2008–December 31, 2012).

The analytical indicators, regarding every case in particular, included: patient's age, sex, profession, life environment, the appearance date of the tumor and the elapsed time until hospitalization, the clinical form, tumor location, the histological type and subtype, and not least, the applied treatment (surgical and adjuvant).

Regarding the patients' distribution according to group ages, our group presents itself according to Figure 1.

Dermoscopy is the imaging technique, which change

radically melanoma prognosis thanks to the early detection of lesion when melanoma is curative. Even dermoscopy improved melanoma diagnosis, still exist false-positive results [5].

A peculiar characteristic of the epithelial precancerous lesions is their potential to evolve into squamous cell invasive carcinomas; more and more authors consider actinic keratosis and squamous cell carcinoma as a unique disease, evolving from dysplasia to invasive carcinoma [6].

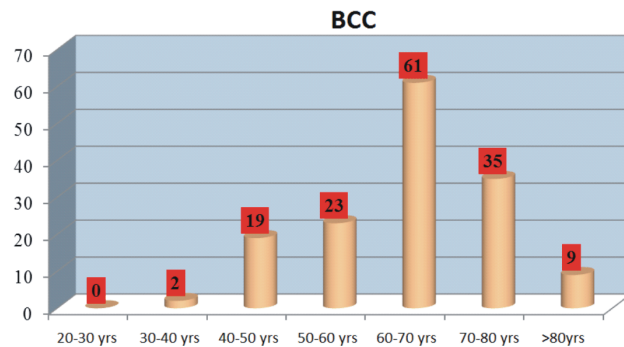


Figure 1 – Case distribution according to age decades.

Basal cell carcinomas often appear on sun exposed areas. These tumors can have a few different aspects. Basal cell carcinoma is the most frequent, and it presents itself as a small tumor, dome-shaped, pearly colored. Blood vessels can be observed on the surface. A basal cell carcinoma can also present itself as an ulceration that seems to heal, but that frequently recurs. The superficial BCC, an early stage of skin cancer, can appear as a glossy pink plate. A less encountered form, the morpheaform, presents itself as a waxy scar, smooth, white or yellowish [11].

The debut of BCC is often insidious, barely noticeable for a long time. In the case of our lot, the patients relate the appearance of the tumors with a few months before seeing the specialist. The majority of these patients went to see the doctor after at least six months from the tumor's appearance (Table 1).

Table 1 – Distribution of cases according to the declared time period of the tumors' evolution and a doctor consult

Lesions' evolution length	No. of patients	Percentage
0–6 months	6	4%
6–12 months	15	10.1%
1–2 months	32	21.5%
2–5 years	66	44.3%
>5 years	30	20.1%
Total	149	100%

The Anglo-Saxon authors (Fitzpatrick, Rook) described five more frequent types of basal cell carcinoma. In our group, the morphoclinical forms are presented in Table 2.

Table 2 – Distribution of cases according to the clinical form of BCC

Morphoclinical form	No. of patients	Percentage
Nodular	71	47.7%
Pigmentation	37	24.8%
Superficial	38	25.5%
Morpheaform	3	2%
Fibroepithelioma	0	0%
Total	149	100%

The increased incidence of carcinomas at the level of the cephalic end and neck in rural areas is explained through an accumulation of risk factors: areas with pronounced sunlight, a profession that requires sun radiations exposure, or repeated exposure to micro traumatism (Figure 2). Farmers, fishermen, gardeners, have an increased risk of professional disease, which can be associated with BCC (frequently associated with SCC within the multiple epitheliomatous) [7–10].

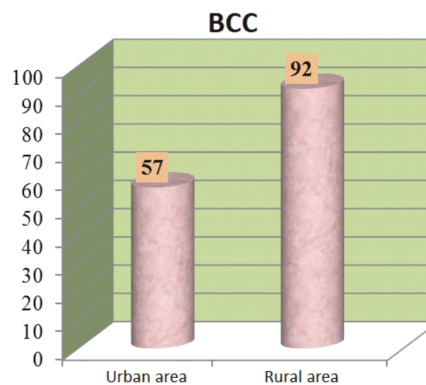


Figure 2 – Case distribution according to life environment.

In the last 20 years, an important increase of the HPV infections' incidence was found, both through the diversity of clinical manifestations and the improvement of the virus highlighting technique through DNA tests. The HPV, E6 and E7 proteins, by inactivating the tumor suppressor proteins, p53 and Rb, of the host, determine the anarchic cellular proliferation and the malignant transformation of the infected tissues [12–19]. All these cellular and molecular modifications, which arise from infecting cells with HPV with a high cancerogenic risk, are considered, by some scientists, to be responsible for the development and progression of some neoplasias, including the melanocytes and non-melanocytes skin tumors (SCC and BCC). Some HPV subtypes (HPV16, 18) were highlighted in some SCC, BCC, Bowen disease, Bowenoid papulosis, and Queyrat erythroplasia cases, but their role is yet unclear [20–22].

We would like to present a case that came to our clinic with a bleeding tumor at the level of the left nasal pyramid (Figure 3).

After the surgical excision (Figure 4) of the tumor and the EHP exam, the diagnosis was not a happy one: metatypical BCC (Figures 5 and 6).

The objective examination apparatus showed a lesion at the level of the cervical. After the special investigations – gynecological exam: clinical and paraclinical (colposcopy), the 50-year-old patient, was detected with a condiloma, characterized by blood vessels modifications at the level of the endocervical canal (Figure 7).

Discussion

Usually, the basal cell carcinoma is primitive, it appears on a skin, apparent, healthy, but it can also appear on a pre-existent skin lesion (often a senile keratosis – when their modifications are the hardest to notice: infiltration, two-dimensional growth, fissuration, ulceration) [23, 24].



Figure 3 – Bleeding tumor at the level of the left nasal pyramid: macroscopic aspect.



Figure 4 – Postoperative aspect.

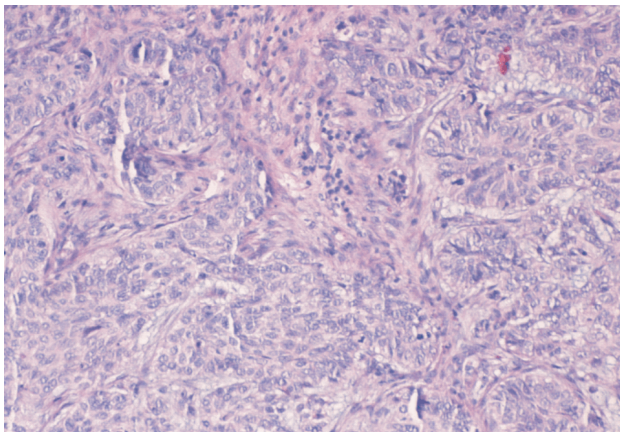


Figure 5 – Metatypical basal cell carcinoma (HE staining, $\times 200$).

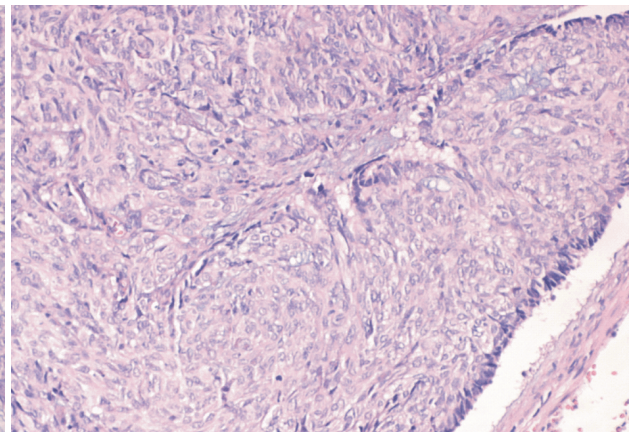


Figure 6 – Metatypical basal cell carcinoma (HE staining, $\times 200$).

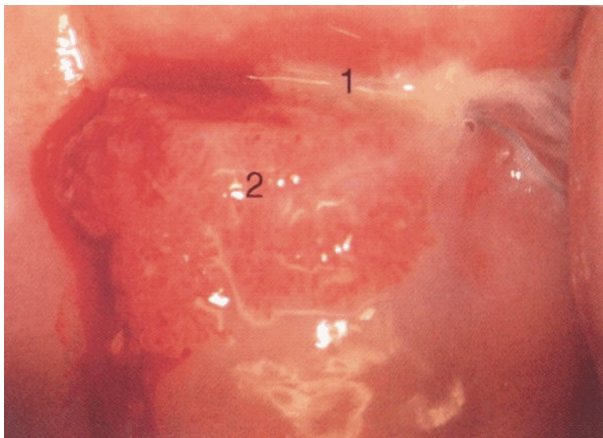


Figure 7 – Colposcopy: condylomas characterized by blood vessels modifications (2). 1: Endocervical canal.

The BCC recurrences are more frequent in lesions at the level of the nose and nasolabial. BCC are invasive tumors at a local level, and the metastasis appears in less than 1:100 000 tumors. The morbidity increases with the depth of the tumor invasion. The perineural invasion is seen very rarely in primitive infiltrative facial BCC. In metastatic BCC, the hematogenous and lymphatic spread, are equally distributed.

The colposcopic evaluation can help in identifying the lesion's extension beyond the macroscopic visible areas. Zone biopsy can identify premalignant lesions, associated with condilomatosis. In general, the therapy of this lesion does not involve special problems; the lesions among pregnant women, with immunosuppression

or recurrent disease. In these circumstances, the biopsy of the lesion must be individually estimated.

As shown in data from current literature, the histopathological exam represents the certitude element, both in the BCC diagnosis, and cervical cancer. The fragments obtained through cervical biopsies or by pieces of resection, were fixed in buffered formalin, included in paraffin, and processed through routine techniques, used in the Pathological Anatomy Laboratory.

The BCC evolution is, mainly, slow (years). The outcome is more favorable than in any other malignant skin tumors. An invasion at the level of lymph nodes or visceral metastases is produced very rarely. It is considered that this type of carcinoma presents a local malignity. The treatment is of a great importance for the evolution and the outcome of the BCC [25, 26].

The sclerosing BCCs showed more intense and higher numbers of positive cells for both p53 and the proliferation antigens [27].

✚ Conclusions

The cervical cancer represents an important problem of public health, ranking second, in our country, after breast cancer, both regarding incidence, and mortality cause by malignant tumors among women. In 2010, Romania scored the highest cervical cancer incidence and mortality rate in Europe. The growing mortality rate of the cervical cancer, in our country, justifies thoroughly directing the efforts towards primary and secondary prophylaxis of the disease, and underlines the necessity

of an urgent intervention at population level, by implementing a screening program, able to reduce the impact of this neoplasia.

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