



ORIGINAL ARTICLE

Clinical and epidemiological profile of patients with cutaneous neoplasia treated in an oncological hospital in Maranhão, Brazil

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Abstract

Introduction: Cutaneous neoplasms can be classified as melanoma and non-melanoma, and the non-melanoma subtype is the most prevalent among the Brazilian population. The most frequent histological types are basal cell carcinoma (BCC) and squamous cell carcinoma (SCC). **Objective:** To evaluate a skin cancer series at the Aldenora Bello Cancer Hospital. **Materials and Methods:** A retrospective and descriptive study was carried out using a chart analysis that used demographic and clinical variables of 462 patients with cutaneous neoplasia of the non-melanoma type at the Maranhense Institute of Oncology Aldenora Bello, from January to December 2016. **Results:** The analysis showed that 71% of the lesions were basal cell carcinomas, with major involvement of the nasal region. The most used treatment was surgical resection and reconstruction by means of graft or flap. **Conclusion** The patients follow-up after surgical resection is important, since approximately 30% of them reported having had at least one previous lesion and of these, around 9% were cases of recurrence.

Keywords: cutaneous neoplasia; basal cell; squamous cell.

Introduction

Cutaneous neoplasms can be divided into melanoma and non-melanoma. In Brazil, according to data from the National Cancer Institute (Instituto Nacional do Câncer - INCA), the non-melanoma subtype is the most frequent in the population, corresponding to about 30% of all malignant tumors registered in the country. The estimative for the year 2016 was 175,760 new cases¹. The risk factors involved with this type of cancer are sun exposure, phenotypic factors, family history, exposure to radiotherapies and immunosuppression. Countries located in the tropical and subtropical regions of the globe present an increased risk for this neoplasm. In addition, the decrease of the ozone layer, greater exposure to ultraviolet radiation, and increase in life expectancy has contributed to the increasing incidence².

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Financial support: Article funded by the author Adriana Aila Rocha Araújo.

Conflicts of interest: No conflicts of interest declared concerning the publication of this article.

Submitted: Aug. 05, 2018.

Accepted: Nov. 25, 2018

The study was carried out at Hospital do Câncer Aldenora Bello (HCAB), São Luís, MA, Brasil.



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Non-melanoma skin cancer (NMSC) is usually slow growing, locally invasive and rarely results in distant metastasis. Therefore, it is a neoplasm with good prognosis, with high cure rates if treated appropriately. However, in some cases where there is a delay in diagnosis or a more aggressive histopathological type, this cancer can lead to severe physical deformities due to local invasion of tumor cells³.

The most frequent histological types of NMSC are basal cell carcinoma (BCC) and squamous cell carcinoma (SCC). BCC results from neoplastic cell changes in the basal layer of the skin and is usually less aggressive, rarely metastasized, although it may be locally invasive and cause destruction of surrounding tissues, including cartilage and bone. SCC affects squamous cells, it presents greater ease of local dissemination and potential for metastasis. Both types usually reach the regions under greater exposure to the Sun⁴.

Cutaneous melanoma neoplasia results from melanocyte transformation and can therefore occur in any region where the melanocyte is present. In the early stages, the melanoma develops only in the most superficial layer of the skin, and in the later stage the lesion is deeper and thicker, which increases the chance of metastases and decreases the possibilities of cure. Therefore, the early diagnosis of melanoma is fundamental. In addition, heredity plays a central role in the development of melanoma, so family members of patients diagnosed with the disease should undergo preventive exams regularly⁵.

Regarding NMSC, the standard treatment continues to be surgical resection with safety margin. In addition to excisional surgery, other therapeutic options are curettage and electrodesiccation, cryosurgery, laser surgery and Mohs' micrographic surgery⁶.

In view of the need for a more detailed approach on this subject in the State of Maranhão, the present study has as objective the statistical survey of skin cancer at the reference State Cancer Hospital, in order to characterize the clinical epidemiological profile of patients with cutaneous neoplasias.

Methods

The descriptive, retrospective, cross-sectional study that analyzed data from all medical records from the year 2016 with diagnosis in the histopathological diagnosis of non-melanoma malignant skin neoplasia. Data were collected from electronic records of 462 patients operated at Aldenora Bello Hospital from January to December 2016 with diagnosis or suspicion of non-melanoma cutaneous carcinoma. The variables used in the study were: age, gender, marital status, provenance, profession, place of involvement, number of lesions, tumor size, staging, type of treatment, injury margin recurrence and association with benign lesions. In relation to the clinical data, the number of lesions, location of the lesions, involvement of the lesion margins, histopathological result, treatment performed, presence of previous lesions, recurrence cases, and staging were evaluated using the TNM system.

After the detection of cutaneous neoplasia, the protocol file was filled out with the Medical File Service (Serviço de Arquivo Médico - SAME) of Aldenora Bello Hospital. The inclusion criteria were patients with confirmation of

malignant non-melanoma lesions in the histopathological area of the head and neck that were treated at the Hospital. Exclusion criteria were: patients with proven malignant lesions in other parts of the body, melanoma skin cancer and patients with benign lesions without association with malignant lesions. The data obtained were coded and entered into a database, using the Spss 16.0 program and the Microsoft Office Excel 2016; analytical description was used. The project was approved by Ethics Committee number 002097/2018.

Results

All records of patients diagnosed with basal cell carcinoma and squamous cell carcinoma from January 2016 to December 2016 at Aldenora Bello Hospital, totaling 462 medical records, were analyzed.

Regarding the age group of the patients under study, we obtained an average of 70 years. As for sun exposure, all cases reported not using sun protection, and performed work activities during the day directly exposed to the sun.

In the histopathological study, 71% (n=328) presented basal cell carcinoma (BCC), 19.5% (n=90) of the patients presented squamous cell carcinoma (SCC), 0.9% (n=4) presented melanoma and 8.6% (n=40) had both BCC and SCC in the histopathology.

According to the number of lesions, 54.3% (n=568) of the patients presented a single lesion, 28.6% (n=81) presented two lesions, 12.7% (n=24) of the patients presented three lesions, and 4.4% (n=6) had more than three lesions, totaling 568 neoplasias in the study. In relation to the main sites affected according to the number of lesions, we obtained in decreasing order: nasal region 25.3% (n=144), followed by other regions not on the face 21.8% (n=124), periorbital region 10.8% (n=61), nasolabial folds 7.6% (n=43), frontal region 7.3% (n=41), ear 6.8% (n=38), neck 4.3% (n=24), face in general 3.6% (n=20), lip 2.9% (n=17), malar region 2.5% (n=14), temporal 2.2% (n=14), scalp 2.0% (n=11), zygomatic 1.4% (n=8), mentonian 1.0% (n=6), and mandibular region 0.5% (n=3). Most affected sites are arranged in Figure 1.

Regarding the presence or absence of previous lesions, we found that 70.6% (n=326) of the patients had no previous lesions and 29.4% (n=136) had a history of previous lesions. Regarding the presence or absence of recurrence, we found that in 91.3% (n=422) of the patients the lesions were not recurrent from other previous lesions, and 8.7% (n=40) presented recurrence. Regarding to lesion margins, 92.2% of the resected lesions had as laboratorial result not committed margins.

Finally, the types of treatments used in the patients were analyzed, 68.4% (n=316) of the patients underwent excision of the lesion and posterior reconstruction with graft or flap, the latter being more frequently used. Of the remainder, 68.4% (n=316) were submitted only to the primary closure of the lesion, 0.6% (n=3) submitted to primary closure associated with radiotherapy and 0.2% (n=1) submitted to reconstruction of the lesion and radiotherapy.

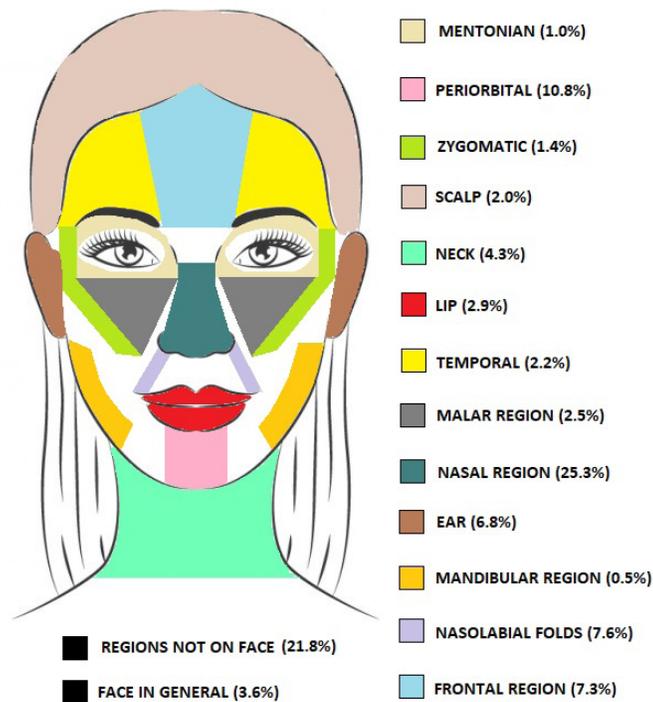


Figure 1. Areas most affected by skin neoplasms.

Discussion

Aldenora Bello Cancer Hospital is pioneer in the treatment of cancer in the state of Maranhão. It is the only Center of High Complexity in Oncology in the State of Maranhão and has medical staff that works in all areas of oncology, as well as a full multiprofessional team to provide integral care for cancer patients. Non-melanoma skin cancer is the most frequent in the country, especially in the North and Northeast regions, where the incidence of sun is high throughout the year. All patients of the study developed labor activities in the sun, which is seen in other scientific works, for that the importance of the use of sun protection.

Basal cell carcinoma is a common skin cancer, and its treatment is important because of its invasive, aggressive and destructive effects on the skin and surrounding tissues, often disfiguring these patients.

Another relevant skin neoplasm is squamous cell carcinoma (SCC). In light-skinned individuals, SCC most commonly occurs in places that are more exposed to the sun. In a cohort of 145 patients with SCC in Australia, the following distribution was observed: head and neck 55%, back of the hands and forearms 18%, legs 13%, arms 3%, shoulders or back 4%, and thorax or abdomen 4%⁷. Although clinical findings may strongly suggest the diagnosis of basal cell or squamous cell carcinoma, histopathological examination is necessary to confirm the hypothesis and to assess tumor depth and if there is perineural invasion. Factors that are important for tumor staging and prognosis.

In contrast to basal cell carcinoma, another interesting finding is carcinoma *in situ* and actinic keratoses that demonstrate only partial thickness epidermal dysplasia. *In situ* carcinoma (or Bowen's disease) is diagnosed when histopathological examination reveals keratinocyte dysplasia involving the entire thickness of the epidermis without infiltration of atypical cells into the dermis. Keratinocytes are pleomorphic with hyperchromatic nuclei and are exhibiting numerous mitoses. Frequently, there is associated thickening of the epidermis (acanthosis) as well as hyperkeratosis of the corneum stratum. In our study the *in situ* carcinoma lesions found were discarded, because they did not fit as malignant neoplastic lesions.

Also, all patients who underwent surgical excision in a surgical center where attended in most cases by head and neck surgeons or plastic surgeons. In 143 patients, only primary closure was necessary, 317 required graft or flap reconstruction, and four underwent surgery associated with radiotherapy.

The efficacy of surgical excision compared to other treatment modalities for basal cell carcinoma was assessed in some randomized trials and a systematic review⁸⁻¹¹. The results of a 2010 metanalysis of 89 studies on surgically excised BCC that excluded studies of previously excised or irradiated lesions (all aspects associated with increased risk of tumor recurrence) suggest that surgical margins of 3mm may be only slightly less effective^{12,13}. The study showed that 92.2% of the lesions resulted in not compromised margins in laboratorial result, which showed that the study followed the limits found in the world literature.

Surgical excision can be performed faster than Mohs' surgery. For lesions with a higher risk of recurrence, surgical excision offers lower cure rates compared to Mohs' micrograph excision. For nodular or superficial primary BCC less than ten millimeters located in non-critical areas of the face (cheeks, forehead, scalp, neck), conventional surgical excision with margins of 4 to 5mm is the first-line therapy.

Second-line therapies for superficial or nodular lesions located in non-critical areas of the face include topical therapies (imiquimod, topical fluorouracil) or cryosurgery, depending on the clinical experience and the patient's characteristics and preferences. For nodular primary or basal cell carcinoma superficial areas smaller than 6mm located in the "H" areas of the face (eyelids, periocular areas, lips and perioral areas, nose and paranasal area, ear, mandible and chin) Mohs' surgery is recommended as first-line therapy. Even for small tumors, Mohs' surgery allows the identification of unapparent tumor extensions, while sparing normal tissue. When Mohs' surgery is not available, the standard excision with 3 to 4mm should be performed. Although the above data relate to the effectiveness of Mohs' surgery, our experience in this scenario is limited because we do not have this service in the hospital.

Radiotherapy is an option for the treatment of BCC in patients who are not candidates for surgical intervention. Radiation as primary therapy is usually reserved for patients over 60 years who cannot undergo surgical procedures due to major comorbidities or other factors and for palliative cases⁷.

Currently, radiation therapy is combined with surgery. Patients may receive radiation to high-risk tumor sites as an adjunctive therapeutic measure

to reduce the likelihood of local recurrence after a surgical excision with free margins¹⁴. Alternatively, radiation therapy is administered as a rescue therapy for patients with incompletely resected tumors. Tumors can affect any part of the body and specific sites have been associated with increased risk of aggressive tumor behavior^{15,16}. Local recurrence of cutaneous SCC is estimated in 2% to 22% of labial tumors and 5 to 19% of tumors of the ear, and metastasis develops in 3 to 20% and 9 to 12% of these lesions, respectively¹⁷.

In September 2016, the American Joint Committee on Cancer (AJCC) and the Union for International Cancer Control (UICC) issued the 8th edition of the staging guidelines. The new guidelines contain an updated system covering tumors located only in the head and neck, since the system was developed within the head and neck committee of the American Joint Committee on Cancer (AJCC). The AJCC staging system for SCC designates a tumor size greater than two centimeters as important for staging the disease¹⁸. Tumors reaching this limit are automatically exceeded in T1 to T2 staging. However, the possibility of metastasis in minor lesions should always be considered, particularly for head and neck injuries.

The new cutaneous SCC plumbing system expanded the criteria for T3. A retrospective study of 1818 cutaneous tumors found that less than one percent of the cohort (six tumors) met the AJCC T3 or T4 stage criteria because of the rarity of bone invasion that is required for these stages and most of the poor results were pooled in the T2 stage (72% of local recurrence, 82% of nodal metastases and 67% of SCC deaths)¹⁹.

In a prospective study of 266 patients with SCC who were metastatic for parotid or cervical lymph nodes, 70% of the lesions measured ≤ 2 cm, indicating that factors other than tumor size contribute to metastatic risk²⁰. In the study, the T1N0M0 staging was found in 73.8% of the cases.

Early and aggressive surgical excision is also the main modality used for the management of patients with localized cutaneous squamous cell carcinoma presenting one or more high-risk characteristics. Treatment modalities that do not provide opportunities to assess tissue margins such as cryosurgery, electrodesiccation and curettage, topical therapies, and photodynamic therapy are not recommended. Radiation therapy is sometimes used as adjunctive therapy in an attempt to reduce the risk of recurrence of the disease. The directions to do remain unclear. Radiation can also be used as recovery or palliative therapy when complete surgical removal is not possible. Patients with locally advanced or metastatic disease who cannot be effectively managed with surgery and/or radiation are candidates for systemic chemotherapy.

Patients with locally advanced or metastatic disease often benefit from management by a multidisciplinary team (i.e., a dermatologic surgeon, head and neck surgeon, otolaryngologist, surgical oncologist, and oncologist). Organ transplant recipients may also benefit from collaboration with transplant clinicians to assess the need for modification of their immunosuppressive regimens.

Surgical excision is the main treatment modality used for the management of high-risk SCC. A systematic review of observational studies evaluating MMS results in a total of 1572 patients with cutaneous SCC found a combined mean local recurrence rate of 3% after this procedure²¹.

Patients with tumors that recur locally after initial treatment are associated with an increased risk for the development of distant metastatic disease. Between 30 and 50% of patients with metastatic basal cell and squamous cell carcinoma have a history of local recurrence after surgical excision¹⁹⁻²³.

In this study there was no surprise regarding the location that were in the high-risk areas, but there was proportionally less presence of basal-squamous carcinoma in relation to the other basal cell carcinomas. This was mainly due to a lower proportion of basal-squamous tumors located in the nose, associated with a higher frequency in the regions of the scalp, malar region and cervical region. The nose is the most common site of occurrence of basal cell carcinomas around the world and is considered a high-risk area.

Conclusion

The study showed that the average age of the patients with cutaneous neoplasia was 70 years old, and most of the patients were male and presented to the histopathologic exam basal cell carcinoma. The site most affected by cancer was the nasal region, which corroborates with the importance of sun protection since skin cancer mainly affects the areas photo exposed to ultraviolet radiation. In addition, we observed the importance of clinical follow-up of the patient after surgical resection, since approximately 30% of the patients reported having presented at least one previous lesion and of these, around 9% were cases of recurrence of the lesion.

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