



Non-melanoma skin cancer: an analysis of compromised margins in excisions

Câncer de pele não melanoma: uma análise do comprometimento de margens em excisões

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■ ABSTRACT

Introduction: Non-melanoma skin cancer is the most frequent neoplasm in Brazil, with an estimated 176,930 new cases during the 2020-2022 period, with basal cell carcinoma (BCC) and squamous cell carcinoma (SCC) as the most common subtypes. Surgical treatment of the lesions is effective, with a recurrence rate varying between 3 and 23%, with compromised margins being an important prognostic factor for this recurrence, increasing the importance of complete excision of the tumor. **Method:** To prepare this work, 1127 lesions treated at the Hospital de Amor Amazônia were analyzed, seeking to quantify cases and analyze surgically compromised margins through a retrospective analytical descriptive study. For this, histopathological reports of the operated patients were reviewed, dividing them according to sex, age, lesion topography, date of excision, lesion diameter, lesion depth, presence of ulceration, compromised margins, and histological type. **Results:** Among the lesions treated, 65% were BCC and 35% SCC, both histological types presenting a low incidence of compromised margins. In cases of CPB impairment, treatment via exeresis was chosen in 100% of cases. Concerning BCC impairment, the majority opted for clinical follow-up, with reapproach in only 9% of cases. **Conclusion:** This study demonstrates that the cases treated at the Hospital de Amor Amazônia align with the epidemiological data in the main literature, except for finding a higher incidence of non-melanoma skin cancer in men. In addition, this work demonstrates good results in the clinical approach of compromised margins in BCC lesions. **Keywords:** Skin neoplasms; Carcinoma, basal cell; Carcinoma, squamous cell; Margins of excision; Reoperation.

■ RESUMO

Introdução: O câncer de pele não melanoma é a neoplasia mais frequente no Brasil, com uma estimativa de 176.930 novos casos durante o triênio 2020-2022, tendo o carcinoma basocelular (CBC) e o carcinoma espinocelular (CEC) como subtipos mais presentes. O tratamento cirúrgico das lesões é efetivo, apresentando taxa de recorrência variando entre 3 e 23%, sendo o comprometimento de margens importante fator prognóstico para essa recorrência, aumentando a importância da excisão completa do tumor. **Método:** Para a elaboração deste trabalho, foram analisadas 1127 lesões abordadas no Hospital de Amor Amazônia, buscando quantificar casos e analisar margens cirurgicamente comprometidas por meio de um estudo descritivo analítico retrospectivo. Para isso, foram revisados laudos histopatológicos dos pacientes operados, dividindo-os de acordo com sexo, idade, topografia da lesão, data de excisão, diâmetro da lesão, profundidade da lesão, presença de ulceração, comprometimento de margens e tipo histológico. **Resultados:** Dentre as lesões abordadas, 65% eram

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CBC e 35% CEC, ambos os tipos histológicos apresentando baixa incidência de margens comprometidas. Nos casos de comprometimento em CEC, optou-se pelo tratamento via exérese em 100% dos casos. Já em relação ao comprometimento em CBC, optou-se majoritariamente pelo acompanhamento clínico, com reabordagem em apenas 9% dos casos. **Conclusão:** Este estudo demonstra que os casos abordados no Hospital de Amor Amazônia vão ao encontro dos dados epidemiológicos presentes nas principais literaturas, com ressalva, apenas, ao encontrar uma maior incidência de câncer de pele não melanoma em homens. Além disso, esse trabalho demonstra bons resultados na abordagem clínica de margens comprometidas em lesões de CBC.

Descritores: Neoplasias cutâneas; Carcinoma basocelular; Carcinoma de células escamosas; Margens de excisão; Reoperação.

INTRODUCTION

Non-melanoma skin cancer is the most common neoplasm in Brazil, with an estimate of new cases for the three years 2020-2022 of 83,770 in men and 93,160 in women, with an estimated risk in the North Region of 21.28/100,000 male inhabitants and 39.24/100 thousand inhabitants women¹. Basal Cell Carcinoma (BCC) and Squamous Cell Carcinoma (SCC) are the two most common subtypes.

Treatment by surgical excision is highly effective for non-melanoma skin neoplasms, and the recurrence rate varies in the literature - between 5 and 14% after excision of BCC² and between 3 and 23% for primary SCC³. Complete excision of the tumor, macroscopically and microscopically, is an important prognostic factor since compromised margins are associated with a greater chance of recurrence⁴.

In the surgical treatment of BCC, the rate of anatomopathological results showing compromised margins varies between 5.5 and 12.5%². However, a discrepancy in the rate of tumor recurrence in positive margins is observed in the literature, which varies from 10 to 67%²; therefore, the need for a new surgical intervention may not be mandatory, and clinical follow-up may be chosen.

The SCC presents a pattern of greater aggressiveness when compared to the CBC. About 5% of cases evolve into locally advanced or metastatic conditions, with uncontrollable growth and substantial disfigurement⁵. In excisional surgical treatment, the cure rate is around 92% and drops to 77% in the case of recurrent tumors⁶.

OBJECTIVE

To evaluate the incidence of BCC and SCC at the Hospital de Amor Amazônia, in Porto Velho/RO, as well as to quantify the cases, the presence of positive margins in excised lesions, rates of surgical reapproaches in these cases and their results.

METHOD

This is a retrospective analytical descriptive study based on a review of the histopathological reports of patients operated on for basal cell carcinoma and/or squamous cell carcinoma at the Hospital de Amor Amazônia in Porto Velho between January 2016 and December 2019. The variables analyzed were gender, age, the topography of the lesion, date of excision, histological type, largest diameter, depth of invasion, presence of ulceration, number of excised lesions, and position of the excision margins. Incisional biopsies and non-BCC and non-SCC skin cancer cases were excluded, totaling 1127 lesions in 487 patients.

The histological types were divided into BCC and SCC for statistical analysis and evaluated separately.

Statistical analysis was performed using the STATA9.2 software, and Pearson's chi-square test was used to study the association between compromised surgical margins and the anatomopathological examination and the presence of positive lesions in surgical reapproach. The significance level adopted was 5% ($p < 0.05$).

The study was approved by the Human Research Ethics Committee, under number 67100417.3.0000.543, of the Hospital de Câncer de Barretos.

RESULTS

During the study, 487 patients were analyzed, totaling 1127 BCC and/or SCC lesions. Among these patients, 236 (48%) were women, and 251 (52%) were men. Those studied ranged between 29 and 102 years, averaging 66 years. Among the 487 individuals, 321 (66%) had only BCC, 92 (19%) only SCC, and 74 (15%) had both BCC and SCC. Concerning lesions, among the 1127 total, 738 (65%) were BCC, and 389 (35%) were SCC.

Regarding the margins in the 389 SCC lesions, the deep margins were compromised in 32 (8%), narrow in 13 (3%), free in 327 (84%), and unknown in 17 (4%). On the lateral margins, 34 (9%) were involved, 7 (2%)

were exiguous, 331 (85%) were free, and 17 (4%) were unknown. All cases of compromised or narrow SCC margins were treated again via excision.

The histological types and histopathological grade found in work can be seen in Charts 1 and 2.

As for the BCC, of the 738 lesions, the deep margins were involved in 77 (10%), exiguous in 19 (3%), free in 631 (86%), and unknown in 11 (1%). On the lateral margins, 115 (16%) were involved, 34 (5%) were exiguous, 578 (78%) were free, and 11 (1%) were unknown.

Chart 1. SCC patterns found on histopathological examination.

Histological patterns of SCC	total injuries
acantholytic	4
Basaloid	1
Keratoacanthoma	18
Conventional	4
Crateriform	1
<i>In situ</i>	57
Infiltrative	59
Superficially invasive	19
Verrucous	3
Nodular	1

SCC: Squamous Cell Carcinoma

Source: Authors

Table 2. Histopathological grading of SCC.

Histopathological grading of the SCC	Total injuries
Well-differentiated	115
Moderately differentiated	184
Little differentiated	18
Uninformed	72

SCC: Squamous Cell Carcinoma

Source: Authors

Considering the BCC's narrow and/or compromised margins, without differentiating them into deep or lateral, 177 lesions were obtained. Of these, 17 (9%) were reapproached, with 11 (64%) compromised and 6 (35%) free of neoplasia. The time interval between the first excision and the reapproach of the margins was variable, with 9 (52%) immediate approach, 2 (12%) with an interval of fewer than 30 days postoperatively, 1 (6%) in an interval from 30 to 60 days, and 5 (29%) with an interval greater than 60 days.

The histological types found are illustrated in Chart 3.

In cases of BCC with compromised margins, longitudinal clinical follow-up was preferred. In the minority, a surgical reapproach of the positive margins was performed (9%).

Chart 3. BCC histopathological subtypes found in the sample.

BCC Histological Subtypes	Total injuries
Infiltrative	1
Sclerodermiform	24
Superficial	22
Nodular	187
Micronodular	30
Adenoid	8
Mixed	383
Areas of squamous differentiation	2
Basosquamous	3
Multicentric	1
Solid	13
Uninformed	64

BCC: Basal Cell Carcinoma

Source: Authors

DISCUSSION

In our study, cases were predominant in males (52%), unlike the casuistic estimate of INCA¹, which stipulated approximately 53% of cases in women in the three years 2020-2022. Concerning age, the average was 66 years, which aligns with the information provided by INCA¹, which shows a higher incidence from 40 years of age. There was a predominance, in BCC, of cases with mixed presentation (51%), that is, with more than one histological subtype. However, separately, among the histological subtypes, the most frequent was the nodular histological subtype (25%), as well as the one found in the study by Rossato et al.⁷. As for the SCC, 47% had a pattern of moderate differentiation.

There is no consensus in the literature regarding the best therapy to be adopted in cases of compromised margins in BCC. However, it is known that the BCC has an intimate relationship with the peritumoral stroma, and Pinkus saw its development in the constitution and interaction with basal cell carcinomas in 1962 and 1967⁸.

The recurrent tumor has a worse prognosis than the primary one because the relationship between the tumor and its stroma can be altered due to the treatment initially instituted, facilitating its dissemination⁹. In addition, it may present exulcerations, more evident cell dysplasia, loosening of tumor cell cords, stromal fibrosis, and decreased peritumoral inflammatory reaction, increasing the spread of neoplastic cells¹⁰. Therefore, one might want to opt for a more invasive approach.

However, according to Rodrigues et al.¹¹, only one-third of the patients will present residual disease in the enlargements performed. In our study, we obtained 64% of the reapproached cases with residual disease in the margin enlargement; however, we believe there is a bias

due to the low sample size (17 reapproached patients) or the surgical technique used in the first excision. When we compare the number of compromised margins, we have 177 cases, with reapproach of approximately 9% of the cases, and if we compare it with the total number of lesions with compromised margins, we have only 6.3% of lesions with the presence of tumor in the excised lesions, the which is below the existing indicators in the literature.

In a study on surgical margins for skin cancer in nonagenarians in England, carried out by Rollett et al.¹², rates of incomplete excision in BCC of 24% were found, with rates of reoperation required in only 21.7% of cases. According to the British Association of Dermatology, watchful waiting is appropriate for BCCs with compromised margins when only one lateral margin is compromised, of a non-aggressive histological type, non-recurring, and involving low-risk anatomical sites¹¹. We opted for the clinical follow-up of BCCs with compromised margins in 90% of the cases, obtaining a good prognosis. In the lesions in which it was decided to widen the margins, 35% were free of the neoplasm; that is, surgical reintervention would not be necessary, which brings us to a minority of cases.

Another study that recommends larger margins depending on the location and size of the lesion presented results of 5% of cases with compromised margins in 1669 excisions performed; however, it does not specify how many of these were surgically reapproached. What we can absorb from this study is that, even with wider margins, compromised margins still exist, and the removal or not follows the protocol of each service¹³.

CONCLUSION

Given the data presented and discussed, we observed an epidemiological agreement between our study and the numbers presented by INCA¹; however, there is a contrast in the incidence of non-melanoma skin cancer, which is higher among men in our sample. This makes us raise hypotheses about possible predisposing factors to this condition, mainly related to sun exposure and the lifestyle of the state of Rondônia.

Concerning BCC therapy, our results corroborate a less invasive approach, showing good results for the clinical follow-up of the lesions. Even in surgically enlarged lesions, the benefit of the intervention is not clear; sometimes, it is performed unnecessarily, as occurred in our research scope, with 94% of unnecessary reapproaches.

It is necessary to emphasize that patient monitoring is fundamental to identifying the recurrence of lesions, which is the preponderant factor in the early diagnosis.

COLLABORATIONS

- CP** Conceptualization, Data Curation, Formal Analysis, Writing - Original Draft Preparation.
- ES** Conceptualization, Data Curation, Formal Analysis, Writing - Original Draft Preparation.
- JNA** Conception and design study, Data Curation, Formal Analysis, Writing - Original Draft Preparation.
- LP** Analysis and/or data interpretation, Conception and design study, Conceptualization, Writing - Original Draft Preparation.
- CFSJ** Analysis and/or data interpretation, Conception and design study, Formal Analysis, Validation, Writing - Review & Editing.
- RLK** Analysis and/or data interpretation, Conception and design study, Conceptualization, Final manuscript approval, Formal Analysis, Methodology, Realization of operations and/or trials, Supervision, Validation, Writing - Review & Editing.

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