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CARCINOMA BASOCELULAR METASTÁTICO EM LINFONODO: RELATO DE CASO

METASTATIC BASAL CELL CARCINOMA IN LYMPH NODE: CASE REPORT

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RESUMO

Introdução: O carcinoma basocelular (CBC) é a principal forma de câncer de pele. É uma neoplasia localmente agressiva, de crescimento lento, originária das células da epiderme ou do epitélio folicular e que raramente produz metástases. No entanto, quando metástases ocorrem, tendem a acometer principalmente o sexo masculino, peles claras e idades mais avançadas, pelas vias linfática e/ou hematogênica. Conferem, também, pior prognóstico à neoplasia. **Relato de caso:** Paciente feminina, 72 anos de idade, com história prévia de CBC em membro inferior esquerdo retirado totalmente, com margens livres, que posteriormente evoluiu com surgimento de nova lesão em região inguinal esquerda e acometimento linfonodal confirmado. **Discussão**: A metástase do CBC é um evento extremamente raro, ocorrendo principalmente em homens brancos acima dos 60 anos e entre os fatores preditivos estão tumores primários extensos, invasão vascular ou perineural, localização em cabeça e pescoço, pele clara, sexo masculino, idade avançada, ressecção incompleta e negligência da lesão. Fatores de risco adicionais incluem imunossupressão, radioterapia prévia e exposição ao arsênio. As metástases ocorrem, em média, nove anos após o tumor primário, disseminando-se inicialmente por via linfática e depois hematogênica, com predileção por linfonodos regionais, pulmões, ossos e pele. O prognóstico é reservado, com sobrevida média de três a sete anos para metástases linfonodais e de oito meses a dois anos para metástases à distância. O diagnóstico baseia-se em exame histopatológico e, quando necessário, imunohistoquímico. **Conclusão:** Com o objetivo de atentar para se considerar o CBC no rol de diagnósticos diferenciais das neoplasias basaloides metastáticas em linfonodos, discorre-se no relato a identificação clínica da lesão e o diagnóstico anatomopatológico, além de uma revisão bibliográfica sobre o CBC, incluindo a fisiopatologia, aspectos epidemiológicos, manifestações clínicas e tratamento.

PALAVRAS-CHAVE: Carcinoma basocelular; Metástase neoplásica; Relatos de casos; Neoplasias cutâneas.

ABSTRACT:

Introduction: Basal cell carcinoma (BCC) is the most common form of skin cancer. It is a locally aggressive, slow-growing neoplasm that originates from epidermal or follicular epithelial cells and rarely produces metastases. However, when metastases occur, they tend to affect predominantly males, individuals with fair skin, and older adults, spreading through lymphatic and/or hematogenous routes. Metastatic disease also confers a worse prognosis. **Case report**: A 72-year-old female patient with a history of BCC on the left lower limb, completely excised with clear margins, later developed a new lesion in the left inguinal region with confirmed lymph node involvement. **Discussion**: Metastasis in BCC is an extremely rare event, occurring mainly in white men over 60 years of age. Predictive factors include large primary tumors, vascular or perineural invasion, head and neck location, fair skin, male sex, advanced age, incomplete resection, and neglect of the lesion. Additional risk factors include immunosuppression, previous radiotherapy, and arsenic exposure. Metastases occur, on average, nine years after the primary tumor, spreading initially via lymphatic and then hematogenous routes, with predilection for regional lymph nodes, lungs, bones, and skin. The prognosis is poor, with an average survival of three to seven years for lymph node metastases and eight months to two years for distant metastases. Diagnosis is based on histopathological examination and, when necessary, immunohistochemistry. **Conclusion**: Aiming to highlight the importance of considering BCC among the differential diagnoses of metastatic basaloid neoplasms in lymph nodes, this report describes the clinical identification of the lesion and its histopathological diagnosis, along with a literature review on BCC, including its pathophysiology, epidemiological aspects, clinical manifestations, and treatment.

KEYWORDS: Basal cell carcinoma; Neoplasm metastasis; Case reports; Skin neoplasms.

INTRODUCTION

Basal cell carcinoma (BCC) is the main type of skin cancer[1–6] and is characterized by slow growth, local aggressiveness, and rare metastasis. The average time from the primary tumor to metastasis presentation is nine years[3,7,8].

When metastasis occurs, it predominantly affects white males over the age of 60 years[5,7-9]. Predictive factors include large primary tumors[7], vascular or perineural invasion, tumors located in the head and neck region, fair skin, male sex, age at presentation, depth of invasion, incomplete surgical resection, and neglect of the primary lesion[5,6,8,9]. The risk factors for metastasis include immunosuppression, previous radiotherapy, chromosome 6 trisomy, lesion recurrence, and arsenic exposure[3,8,9]. Despite these factors, it is unlikely that a BCC will metastasize[5].

The prognosis of patients with BCC metastasis is poor[3,6-8] and varies depending on the affected site and the characteristics of the primary tumor[7]. However, BCC has the potential to metastasize[10]. The survival rate for metastasis to regional lymph nodes ranges from three to seven years, whereas for distant metastasis, from eight months to two years[2,6–8,10].

Given the infrequent occurrence of metastatic progression in BCC, this report aims to describe a rare case of lymph node metastasis from basal cell carcinoma and to emphasize the importance of recognizing metastatic BCC as a potential differential diagnosis in basaloid metastatic neoplasms of the lymph nodes. This study is characterized as a case report with a descriptive and narrative design, complemented by a literature review. Data were obtained from the patient's medical records, including information from the initial consultation for the investigation of a recurrent skin neoplasm up to the surgical resection outcome. This study was conducted in accordance with ethical standards and was approved by the Research Ethics Committee of the Faculdades Pequeno Príncipe under protocol number 6.108.539. The main limitations of this report include the unavailability of clinical photographs and the lack of postoperative follow-up data, which restricted a more comprehensive evaluation of disease progression.

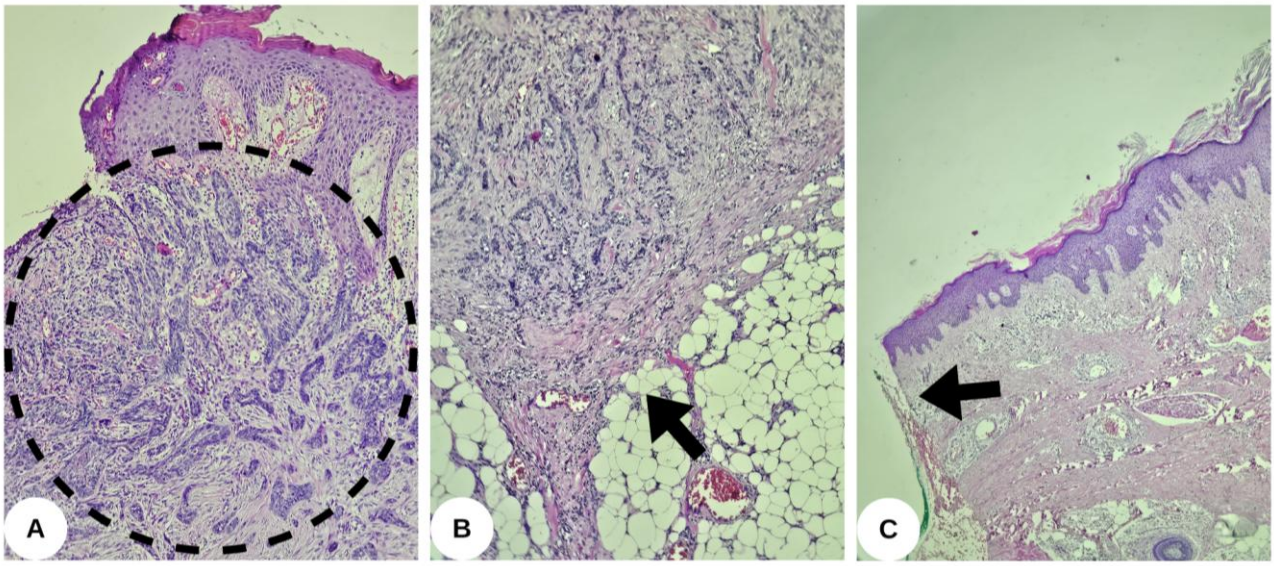
CASE REPORT

A 72-year-old female patient presented to a medical consultation in 2023 with a skin lesion of scar tissue with an underlying lymphadenopathy in the left inguinal region. Physical examination revealed lymph node enlargement in the left inguinal region, with 2.5 cm skin

retraction, suggestive of adherence, and associated lymphedema in the left lower limb. Skin lesion was not further described.

Her medical history included hypertension, diabetes, hypercholesterolemia, smoking history and a previously resected BCC on the left leg with clear margins in 2015. The resected segment of skin of this primary lesion included an elliptical segment of brownish skin measuring 7.0 x 0.5 x 0.3 cm, with a lesion measuring 4.0 x 2.0 cm showing an ulcerated, rough aspect, with well-defined ashy borders, located 0.2 cm from the nearest margin. As per anatomopathological findings, it consisted of an ulcerated basal cell carcinoma, with cord-like and nested patterns, infiltrative growth, extending into the deep dermis. Surgical margins are clear (Figure 1).

Figure 1: Histopathological characteristics of the primary lesion.



A: BCC, in cord-like and nested blocks, with infiltrative growth (100x, H&E - black circle). B: Infiltrative growth pattern extends into the deep dermis (100x, H&E - arrow). C: The surgical margins were free of neoplasia (40x, H&E - arrow). Source: From the authors' collection.

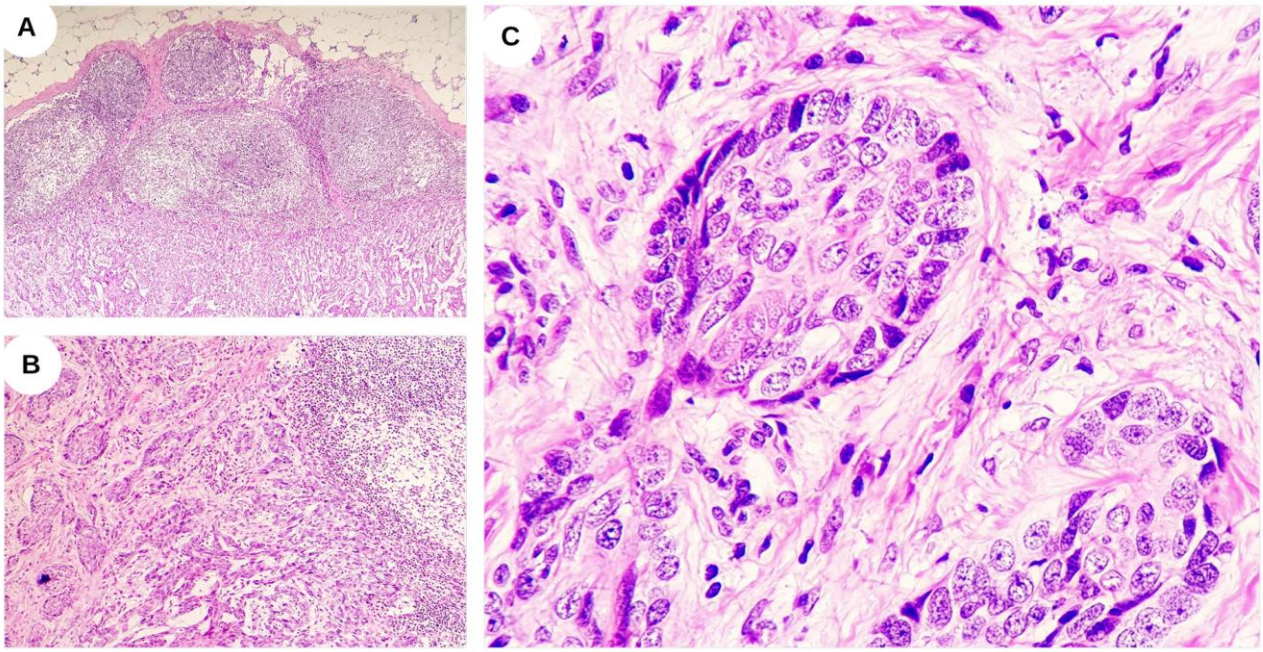
Imaging studies were conducted to evaluate the new lesion. Soft tissue ultrasonography revealed a hypoechogenic heterogeneous nodular lesion with imprecise and spiculated contours primarily located in the subcutaneous tissue. It caused skin retraction in the proximal anteromedial region of the left thigh, measuring 2.4 x 2.2 x 1.8 cm. Abdominal computer tomography also revealed a 2.4 x 2.0 cm image, suggestive of lymph node involvement by primary or secondary neoplasia. This information led to the main diagnostic hypotheses of recurrent BCC in the left inguinal region and metastatic BCC in lymph node.

The surgical team decided to remove the skin lesion, as well as to perform a left

inguinofemoral lymphadenectomy. The samples were sent for anatomopathological analysis, and the patient showed a favorable postoperative recovery.

Femoral lymphadenectomy specimen consisted of yellowish, lobulated, and unctuous tissue, measuring 9.0 x 7.5 x 5.5 cm. Three brownish fibroelastic nodular structures measuring 0.4 to 3.5 cm along the longest axis were dissected. Microscopic examination revealed carcinoma arranged in nests and metastatic cords in one of the three lymph nodes (Figure 2). The compromised node measured 3.5 cm, likely corresponding to the lesion identified during the physical examination. An irregular segment of skin measuring 1.7 x 1.0 x 0.3 cm revealed, on light microscopy, the same carcinoma invading dermis and underlying soft tissue with no connection to the epidermis. Histopathology also exhibited extensive desmoplasia. Surgical margins coincided with the neoplasm in multiple foci.

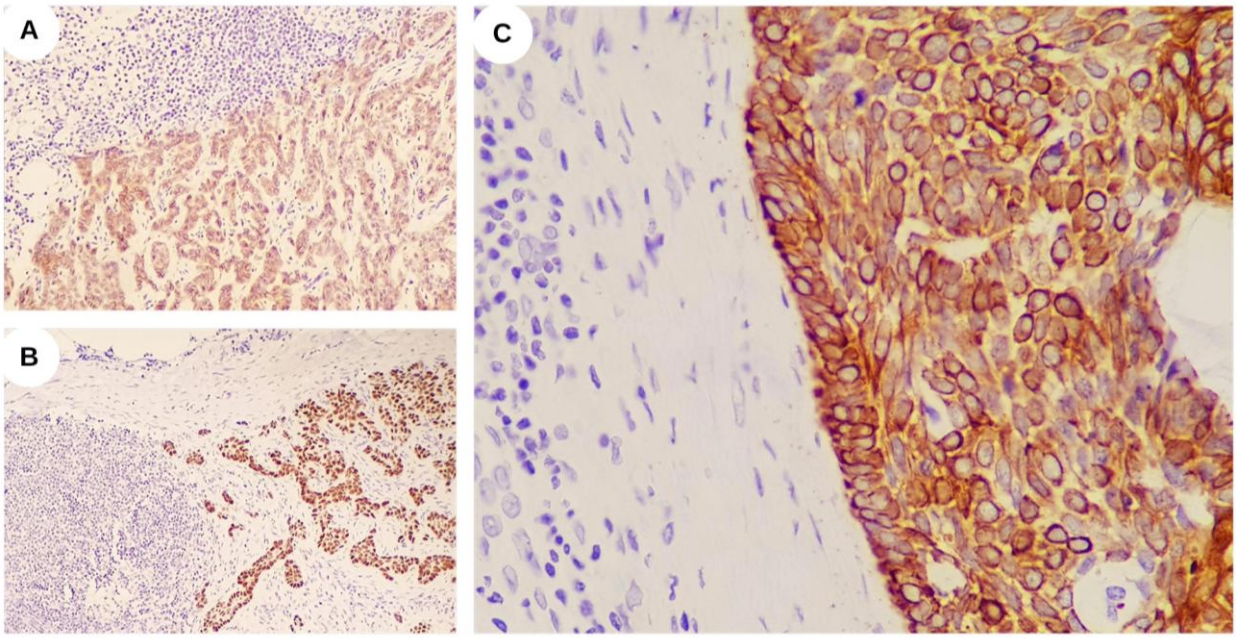
Figure 2: Histopathological characteristics of the neoplasms.



A and B: Metastatic carcinomas arranged in nests and cords in the lymph node (40x and 100x, H&E). C: Details of basaloid neoplastic cells with peripheral palisade (400x, H&E). Source: From the authors' collection.

The samples were further analyzed by immunohistochemistry to better characterize the carcinoma. The neoplastic cells were positive for the markers Ber-EP4, P63, and CK34βE12 (Figure 3) and negative for CK7 and CK20. Histological and immunohistochemical analyses confirmed the diagnosis of metastatic basal cell carcinoma in the lymph node, as well as invasion of the soft tissue and dermis.

Figure 3: Immunohistochemical profiles of neoplasms.



Positive markers in brown colored CBC cells in the images. A: Ber-EP4 (100x, IHC). B: P63 (100x, IHC). C: CK34βE12 (400x, IHC). Source: From the authors' collection.

The patient was referred to an oncologist for further treatment. Unfortunately, owing to the tertiary nature of the service, the patient's follow-up data could not be obtained.

DISCUSSION

Metastasis of BCC is rare[2–6,8,10]. The present report is notable not only for exemplifying a rare epidemiological situation, but also because the patient presented few predictive factors for the development of BCC metastasis, particularly age and fair skin.

BCC metastasis usually begins via the lymphatic route - as portrayed in the reported case - and progresses via the hematogenous route[2,3,6,7,9,10], although both can coexist[6,7]. Regional lymph nodes, lungs, bones, and skin are the main sites of BCC metastasis[3,7–10].

Metastasis generally manifests as large, invading, irregular nodules[7] consisting of basaloid carcinoma with large and hyperchromatic cells, central necrosis, and occasional areas with clear cells[1,5]. As shown in Figure 2, cells may be arranged in nests and cords. The typical immunohistochemical markers used for diagnosis are CK5/6, BerEP-410, CK34βE12, keratin, and P63[5]. Both techniques are important for differentiating BCC from its main differential diagnoses, such as squamous cell carcinoma, basosquamous carcinoma, and other basaloid neoplasms[6].

In addition to these macroscopic and microscopic characteristics, metastasis criteria

were defined by Lattes and Kessler (1950). The criteria are as follows: the primary BCC must be in the skin and not in a mucous membrane; it must be distant from the primary site and not an extension; the metastasis and primary lesion must have similar histopathological features[2,3,7,8]. The patient met all the three criteria.

The primary treatment for BCC is surgical resection, which may be complemented by adjuvant therapy in cases of recurrence[1,7,9]. The available therapeutic options for metastatic BCC include chemotherapy with vincristine, etoposide, bleomycin, cyclophosphamide, methotrexate, and doxorubicin, either as a standalone treatment or in combination[8]. Topical therapies include 5-fluorouracil 5% cream and imiquimod 5%[1,6]. Currently, there are two Hh pathway inhibitors: vismodegib and sonidegib. Both have shown considerable tumor shrinkage and are used in cases of metastasis and in patients who are not eligible for surgical procedures or radiotherapy[1,8].

This report is consistent with cases described in the literature in which BCC progressed to lymph node involvement showing identical histology between the primary tumor and the metastasis, as well as with a case series of metastatic head and neck BCCs, in which regional lymph nodes were the most frequent site of dissemination. These studies reinforce that, although rare, lymph node metastatic BCC may arise in diverse contexts, with different primary sites and clinical latency periods[11,12].

LIMITATIONS

The limitations of this report include the insufficient information about the patient's progression after removal of the lesion due to loss of follow-up.

CONCLUSION

This report describes a rare case of lymph node metastasis from basal cell carcinoma and discusses its clinical, histopathological, and therapeutic aspects in the context of the literature. The case underscores the unpredictable behavior of BCC, even in patients with few classical risk factors, and highlights the importance of considering metastatic BCC in the differential diagnosis of basaloid neoplasms in lymph nodes. Awareness of such rare occurrences can aid in early recognition, appropriate management, and better understanding of the disease’s biological behavior.

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