Case Reports

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Ductal eccrine carcinoma - diagnostic challenge

Carcinoma ductal de glândulas sudoríparas écrinas - desafio diagnóstico

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ABSTRACT

A 77-year-old patient presents a case of primary cutaneous ductal eccrine carcinoma in the parietal region of the scalp. The biopsy showed a carcinoma with a ductal and infiltrative pattern, suggestive of metastatic neoplasia. An invasive carcinoma with eccrine tubular pattern was identified. The mastologist and oncologist did not detect primary lesions in other organs. Based on clinical and immunohistochemical analyses, the diagnosis was primary cutaneous eccrine carcinoma. Mohs micrographic surgery was performed with three phases to get a free margin. The tumor presented deep infiltration of the subcutaneous tissue and galea aponeurotica.

Keywords: Carcinoma, intraductal, noninfiltrating; Eccrine glands; Mohs Surgery

RESUMO

É apresentado um caso de carcinoma ductal écrino cutâneo primário na região parietal do couro cabeludo em paciente de 77 anos. A biópsia mostrou carcinoma de padrão ductal, infiltrante, sugestivo de neoplasia metastática. Foi identificada infiltração por adenocarcinoma de padrão tubular écrino. O paciente foi encaminhado ao Mastologista e Oncologista, que não detectaram lesões primárias em outros órgãos. Diante da clínica e análise imuno-histoquímica, o diagnóstico foi de carcinoma écrino primário da pele. Para tratamento, realizou-se cirurgia micrográfica de Mohs, em três fases para obter margem livre. O tumor apresentava infiltração profunda da tela subcutânea e gálea aponeurótica. **Palavras-Chave:** Carcinoma ductal; Glândulas écrinas; Cirurgia de Mohs

INTRODUCTION

Sweat gland carcinomas (SGC) are rare tumors, accounting for approximately 0.05% of all cutaneous neoplasms 1, and are divided into apocrine and eccrine (more common).² Ductal eccrine adenocarcinoma (DEC) affects individuals of both sexes from 50 to 80 years of age.² It is generally described as an asymptomatic lesion with slow evolution. DEC presents great clinical variability and is located mainly on the scalp and cervical region. It presents metastases, in some 57% of cases³, to the regional lymph nodes, skin, lungs, and bones.² Treatment is reported as excision with wide margins. Prognosis is reserved, with 70% recurrence³, while 10-year survival is 9% and 56% (whether lymph node positive or negative, respectively)⁴.

Ductal eccrine adenocarcinoma is clinically important due to the histological and immunohistochemical findings similar to secondary cutaneous metastases, especially from invasive ductal carcinoma of the breast, in addition to other adenocarcinomas, whose treatment and prognosis differ greatly. The differential diagnoses are squamous cell carcinoma, basal cell carcinoma, and Merkel cell carcinoma.^{5,6}

Eccrine sweat gland carcinom

This study reports a case of ductal eccrine carcinoma in which the differential diagnosis with cutaneous metastasis was challenging. Confirmation was only possible through the association of clinical, histological, and immunohistochemical data. The study further aims to demonstrate the importance of Mohs micrographic surgery (MMS) in this setting, since this neoplasm presents imprecise limits, a, factor that hinders obtaining free margins if treated with conventional surgery.

CASE REPORT

A 77-year-old male patient presented a history of an asymptomatic lesion on the scalp, which he had noticed 15 days before. Clinical examination revealed a subcutaneous nodule with alterations in the overlying skin, measuring $1.2 \ge 0.9$ cm in diameter, located on the right parietal region of the scalp (Figure 1). An incisional biopsy was performed, evidencing proliferation of atypical polyhedral cells with hyperchromatic/pleomorphic nuclei and evident nucleoli, forming niches, cords, and tubular arrangements in the midst of desmoplastic stroma (Figures 2, 3, and 4), suggestive of infiltrative ductal-pattern carcinoma, possibly metastatic neoplasia.

Immunohistochemistry was CK7 positive, EMA positive, diffusely ER (estrogen receptor) positive, CK20 negative, and WT1 negative, and the report was invasive carcinoma originating in the breast. Patient was referred to a mastologist and oncologist, who did not find malignant neoplasms, either in the breasts or in other organs.

Excision of the lesion was performed with MMS. In the first stage, the initial margin was 5mm, and two more stages were necessary to obtain free margins (Figure 5). Histology showed ductal eccrine carcinoma, moderately differentiated, with deep infiltration of the subcutaneous tissue and galea aponeurotica, sparing the epidermis and superficial dermis.

DISCUSSION

Ductal eccrine adenocarcinoma presents findings on histology and immunohistochemistry that are quite similar to cutaneous metastases from adenocarcinomas, especially of the breast,



FIGURE 1: Lesion on scalp presenting subcutaneous nodule in the preoperative period (photograph by camera)









FIGURE 3: Eccrine carcinoma of the skin: epithelial neoplasia consisting of infiltrative tubules and cords in the dermis, permeated by desmoplastic stroma, reminiscent of ductal carcinoma of the breast (no special type, WHO). Hematoxylin & eosin, 100x

FIGURE 4:

Eccrine carcinoma of the skin: epithelial neoplasia consisting of tubules and cords with atypical polyhedral cells in the midst of desmoplastic stroma, reminiscent of ductal carcinoma of the breast (no special type, WHO). Hematoxylin & Eosin, 400x



FIGURE 5: Final defect after Mohs micrographic surgery with diameter much larger than the initial lesion

breast carcinoma (CMBC) – positive cases/ all cases investigated (percentage)														
STUDIES	TYPES OF CANCER	P63	СК	CK5	CK17	CK7	CK14	Mama- globina	GCD- FP15	CEA	S100	CERB	ERP	PRP
Rollins- Ravel et al, 2011	SGC	4/5 (80)	-	4/5 (80)	4/5 (80)	-	4/5 (80)	2/5 (40)	1/5 (20)	-	-	-	-	-
	CMBC	1/12 (8)	-	0/12 (0)	2/12 (16)	-	0/12 (0)	7/12 (58)	5/12 (41)	-	-	-	-	-
Serhrauchni et al, 2013	SGC	1/1 (100)	-	1/1 (100)	-	1/1 (100)	-	-	-	1/1 (100)	1/1 (100)	-	1/1 (100)	1/1 (100)
	CMBC	-	-	-	-	-	-	-	-	-	-	-	-	-
Wick <i>et al</i> , 1998	SGC	-	27/27 (100)	-	-	-	-	-	5/27 (18)	21/27 (77)	12/27 (44)	12/27 (44)	9/27 (33)	1/4 (25)
	CMBC	-	59/59 (100)	-	-	-	-	-	41/59 (69)	5/59 (8)	27/59 (45)	12/59 (20	31/59 (52)	27/59 (45)
Ivanet <i>et al</i> , 2004	SGC	9/10 (90)	-	-	-	-	-	-	-	-	-	-	-	-
	CMBC	2/3 (66)	-	-	-	-	-	-	-	-	-	-	-	-
Wallace <i>et al</i> , 1995	SGC	-	-	-	-	-	-	-	-	-	-	-	-	-
	CMBC	-	-	-	-	-	-	-	7/15 (46)	-	-	-	1/15 (6)	15/15 (100)
Busam <i>et al</i> , 1999	SGC	-	-	-	-	-	-	-	-	-	-	-	2/13 (15)	2/13 (15)
	CMBC	-	-	-	-	-	-	-	-	-	-	-	10/30 (33)	8/30 (26)
CASO*	SGC	1/1 (100)	-	_	-	1/1 (100)	-	-	-	1/1 (100)	1/1 (100)	-	1/1 (100)	-
	CMBC	-	-	-	-	-	-	-	-	-	-	-	-	-

Tapie view we have a head and a standard for differential diagnosis between sweet gland any in any (SCC) and systematics that

making the differential diagnosis challenging.5,6

The clinical characteristics of these two entities are different: ductal eccrine adenocarcinoma presents as a single lesion, while metastasis from the breast commonly presents multiple lesions and association with history of breast cancer prior to the dermatological findings. Immunohistochemistry has been the focus of attention in recent studies to differentiate between SGC and cutaneous metastatic breast carcinoma.^{5,7}

The diagnosis in this case was possible after ruling out an extracutaneous metastatic focus, by the presence of a single lesion on the scalp, associated with the immunohistochemical analysis. The findings in the two immunohistochemical studies were CK7+, P63+, CK18+, and CEA+. There is no evidence--based immunohistochemical pattern, given the tumor's rarity. However, in the existing studies, the presence of the above-mentioned markers favors a primary eccrine gland tumor and less frequently a cutaneous metastatic breast carcinoma, as shown in Table 1.

Other potential markers described in the literature for this distinction are GCDFP-15, EGFR, and podoplanin.8 Treatment with MMS proved essential due to the tumor's location in the deep dermis and subcutaneous tissue, the imprecise limits, and the absence of alterations in the epidermis and superficial dermis. At the end of MMS, the margin needed to obtain free margins was 9mm (three stages). Given the subclinical extent and the fact that this was a neoplasm with high relapse and metastasis rates, the Mohs surgical approach proved important to control the margins, thus reducing the risk of incomplete excision.

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