**CASE REPORT**

**Apocrine gland carcinoma on the right thigh**

*Carcina de glândula apócrina em coxa direita*

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**ABSTRACT**

The authors report a case of cutaneous apocrine ductal carcinoma of the right thigh in a 78-year-old female. Histological examination revealed a solid, ductal and glandular tumor with a significant desmoplastic reaction. The tumor cells showed high-grade cellular atypia, and occasional peritumoral inflammatory infiltration was also observed. There were no characteristics of extramammary Paget’s Disease on the overlying skin. The neoplastic cells were immunohistochemically positive for S-100 protein, lysozyme and alpha-chymotrypsin, but negative for CEA, EMA, and HMB-45. On the basis of these findings, the diagnosis of apocrine ductal carcinoma was confirmed. The patient then underwent wide resection of the tumor plus *en-bloc* radical inguinal lymphadenectomy. The local reconstruction was done by means of a tensor fascia lata flap, no adjuvant treatment was performed. To date, one year on, the patient remains healthy, there being no evidence of tumor recurrence.

**Keywords:** Carcinoma; Carcinoma, ductal; Apocrine glands/pathology; Thigh/pathology; Immunohistochemistry; Case reports

**INTRODUCTION**

Sweat gland tumors are rare in the skin adnexal lesions. They are classified according to the origin of the sweat gland cell type – both eccrine and apocrine. Both benign and malignant tumors can be found in these two main sweat gland groups. Among the malignant tumors, cutaneous apocrine ductal carcinomas (CADCs) are very uncommon neoplasms(1-2).

CADCs occur most frequently in the axilla, which contain the greatest concentration of apocrine glands(1-3), but they can also occur sporadically in other areas such as the anogenital area, nipples, scalp, face, trunk, acral sites, wrists, fingertips and lips(3).

Management of these tumors is difficult because of their rarity. There are a few reports on their treatment, almost all of them being pathological rather than clinical. The authors present a case of CADC of the right thigh. A brief review of the literature is presented, principally with regard to the diagnosis and surgical management.

**CASE REPORT**

A 78-year-old African-Brazilian woman presented with a slowly enlarging nodular lesion on her right thigh over a one-year period. The patient complained of local pain. Her medical history was significant for diabetes mellitus and arterial hypertension. Both diseases were controlled by oral medication.

Physical examination revealed a firm, nodular, subcutaneous tumor measuring 10 versus 8 cm that was attached to the overlying skin but mobile over...
deeper-lying tissue. The lesion was situated anteriorly on the right thigh, below the inguinal arcade. It was a well-defined violet-red mass (Figure 1). The clinical differential diagnosis included tumor of the skin adnexa, metastatic tumor, non-melanoma skin cancer, amelanotic melanoma, cutaneous lymphoma and cutaneous tuberculosis. An incisional biopsy was performed for pathological examination.

The patient underwent a wide resection with a 2 cm margin of normal tissue (three-dimensional resection). The previous scar with contiguous skin and subcutaneous tissue was resected en bloc with deep and superficial inguinal lymph nodes (radical inguinal lymphadenectomy). This approach was used because the deep margin of the surgical specimen was close to the deep inguinal lymph nodes of Scarpa’s triangle (Figure 3). The reconstruction was carried out by means of a tensor fascia lata flap. A closed-suction drain was placed.

The histological diagnosis was that the tumor was a poorly differentiated, invasive apocrine adenocarcinoma. Immunohistochemical tests were positive for S-100 protein, lysozyme and alpha-antichymotrypsin. Immunostaining for CEA, EMA and HMB-45 was negative.

Both regional (Figure 2) and whole-body computed tomography (chest, abdomen and pelvic) examinations were performed. The tumor presented without locoregional or distant metastases.

The flap presented evidence of partial necrosis (about 40%) on the fifth postoperative day. The patient had a soft tissue abscess and consequently underwent extensive debridement and intravenous antibiotic therapy. She was discharged from hospital on the tenth postoperative day. The pathologic examination revealed a cutaneous apocrine ductal carcinoma with negative margins. Ten local lymph nodes were negative for tumor. No adjuvant treatment was given. The resultant wound healed by second intention approximately four months after discharge. To date, in one-year follow-up, the patient is well. There has been no evidence of recurrence.

**DISCUSSION**

Sweat gland tumors are not common and the incidence rate reported from a retrospective review of pathological specimens in a major institution was 0.05%\(^{(4)}\). Thirteen of the 108 sweat gland tumors identified in that study were malignant. The peak incidence rates for these tumors are found in the fifth and sixth decades of life, and there is no sex preference\(^{(5)}\).
These tumors most commonly appear on the face, upper extremities, and axilla. However, there are some case reports on tumors found at different sites, including lower limbs, hand and genital areas. The typical appearance of these tumors is a slow-growing painless red or violet nodule that may be ulcerated. The average length of time from tumor onset to diagnosis reported is 7.3 years. Some cases that are present for many years begin to grow rapidly.

Given their low frequency, these tumors are often difficult to diagnose. Differential diagnoses include metastatic tumors, cutaneous lymphomas, cutaneous tuberculosis and non-melanoma skin cancer or even amelanotic melanoma. Since nodular skin lesions can be malignant neoplasms, the authors of the present study consider it advisable to perform some type of biopsy on cutaneous masses. As a general rule, we have only performed excisional biopsies on mobile small lesions. On the other hand, for deep or bulky lesions, incisional biopsies are the first choice.

In spite of their origin, malignant sweat gland tumors present similar biological behavior. Both apocrine and eccrine carcinomas frequently spread primarily through the lymphatic system. Hematogeneous metastases are uncommon, but bones and lungs are the most common sites of distant disease. The degree of lymphatic spread correlates with the histological grade of the tumor. According to Katagiri and Ansai, 43 CADCs were described in the literature. Among these cases, 11 showed local recurrence and 17 cases exhibited metastases in regional lymph nodes or other organs. All, except one case, underwent whole-tumor excision or tumor excision with lymph node resection. Thus, the treatment of apocrine carcinomas remains largely surgical. More recently, Michel et al. recommended sentinel lymphadenectomy for non-melanoma skin malignancies, such as skin adnexal tumors. This approach avoids significant morbidity. Over the last few years, the preference has been sentinel lymphadenectomy. Nevertheless, in the present case, it was performed en-bloc regional node dissection because the deep surgical margin was close to the deep inguinal lymph nodes.

Occasionally, chemotherapy or even radiation therapy can be used. However, there is no consensus in relation to the drugs to be used or even the radiation dose. Generally, for CADCs treatment no surgical therapy has been reported ineffective, although no formal clinical trial data are available.

Despite the few reports on the prognosis for CADCs, these tumors seem to present good long-term survival if adequately treated. According to Katagiri and Ansai, out of 32 treated patients who were followed up, only four patients died of the disease (follow-up of 0.4 to 7.7 years). Nevertheless, even though the prognosis seems favorable, in the case of sweat gland carcinomas, prognosis depends on the degree of tumor differentiation.

**CONCLUSIONS**

CADC is a rare neoplasm which presents as a violet-red nodular skin lesion. It metastasizes to lymph nodes or distant organs. Wide resection with free margins associated to regional lymphadenectomy is the first-choice treatment. Over recent years, sentinel node lymphadenectomy has been recommended as an interesting approach. Adequate diagnosis associated with good surgical treatment can provide good locoregional control or even a cure for this neoplasm.

**REFERENCES**