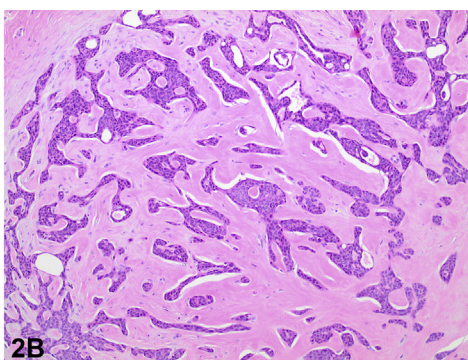
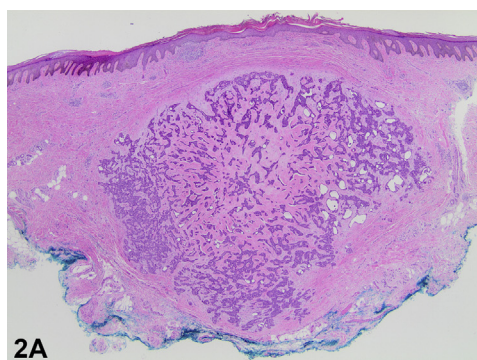


A tender pigmented papule in an African-American woman



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A 66-year-old African-American woman presented with a 1-year history of stable tender lesion on her left hand (Fig 1).

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Excisional biopsy found a dermal infiltrative nodular proliferation of irregular basophilic islands and anastomosing tumor lobules with areas of ductal differentiation (Fig 2) that were CK7⁺ and GCDP-15⁻ and CK20⁻. Pelvic examination and screening colonoscopy were up to date and negative along with subsequent negative mammography and positron emission tomography scan. The patient had no history of malignancy and was being monitored for nonprogressive calcifications in the right breast. Family history was significant for a maternal aunt with breast carcinoma at age 30.

Question 1. What is the most likely diagnosis?

- A. Dermatofibroma
- B. Metastatic breast cancer
- C. Primary cutaneous cribriform carcinoma (PCCC)
- D. Adenoid cystic carcinoma
- E. Basal cell carcinoma (BCC), adenoid cystic type

Answers:

A. Dermatofibroma — Incorrect. Although the clinical findings resembled a dermatofibroma, the histopathology did not support this diagnosis. The histology for dermatofibroma would consist of a dermal spindle cell proliferation with characteristic entrapped thickened collagen bundles along the periphery.

B. Metastatic breast cancer — Incorrect. In the context of a longstanding lesion, negative review of systems, no personal history of breast cancer, negative mammography, and unremarkable positron emission tomography/computed tomography scan, this diagnosis is unlikely.

C. PCCC — Correct. The histopathology of a dermal tumor consisting of anastomosing basophilic cells with ductal differentiation in a cribriform pattern without evidence of primary visceral adenocarcinoma is most consistent with PCCC. PCCC is a rare, indolent form of cutaneous adenocarcinoma most commonly located on the upper extremities. It is characterized by small sieve-like spaces of variable size and shape and is surrounded by desmoplastic stroma; it is usually confined to the dermis. This pattern may histologically imitate metastasis by a visceral cribriform carcinoma, such as those that may be associated with salivary or prostate origin. Metastatic cribriform carcinoma, however, frequently expresses CK20, whereas PCCC does not.¹

D. Adenoid cystic carcinoma — Incorrect. Adenoid cystic carcinoma is characterized by larger epithelial islands of basaloid cells and small cyst-like spaces with prominent myxoid component. Aggregates of neoplastic basophilic cells are less likely to be interconnected, a feature that is characteristic of PCCC. Additionally, adenoid cystic carcinoma is more likely to demonstrate neurotropism.¹

E. BCC, adenoid cystic type — Incorrect. The adenoid cystic variant of BCC may resemble adenoid cystic carcinoma in that basaloid islands contain cyst-like spaces with prominent myxoid component. In addition to these areas, typical features of BCC should also be present, including peripheral palisading of basaloid cells in tumor lobules and retraction of neoplastic cells from surrounding stroma. Neurotropism, which is commonly seen with adenoid cystic carcinoma, is an uncommon finding in BCC. BCC typically will have involvement with overlying epidermis, a feature not seen in adenoid cystic carcinoma or PCCC.

Question 2. What stain is the most useful in distinguishing the diagnosis from metastatic breast cancer?

- A. CK7
- B. GCDP-15
- C. CK20
- D. GATA-3
- E. CEA

Answers:

A. CK7 — Incorrect. CK7 is expressed by many epithelial neoplasms including PCCC and breast carcinoma.

B. GCDP-15 — Incorrect. Although PCCC does not express GCDP-15, the sensitivity of GCDP-15 is less than 35% in metastatic breast carcinomas and would therefore not have good diagnostic value in this setting.^{1,2}

C. CK20 — Incorrect. Neoplastic cells in both PCCC and breast carcinoma are usually nonreactive for CK20.

D. GATA-3 — Correct. GATA3 has a high negative predictive value in distinguishing primary cribriform carcinoma from metastatic breast cancer and is found to be superior in detecting both primary and metastatic breast carcinoma when compared with GCDP-15 and mammaglobin.^{3,4}

E. CEA — Incorrect. CEA has a low specificity and is positive in many adenocarcinomas; it is expressed in both breast carcinoma and PCCC. PCCC also demonstrates staining by MNF116, AE1/3, Cam5.2, CK7, and EMA.^{1,5}

Question 3. What is the treatment and likely prognosis of this condition?

- A.** Resection with a high rate of recurrence
- B.** Resection with low risk of recurrence
- C.** Resection plus chemotherapy with low risk of recurrence
- D.** Resection plus chemotherapy with high rate of recurrence
- E.** Chemotherapy with high rate of recurrence

Answers:

- A.** Resection with a high rate of recurrence — Incorrect. There are no reports of recurrence of PCCC following complete resection.
- B.** Resection with low risk of recurrence — Correct. PCCC is a rare but indolent cutaneous carcinoma with overall favorable prognosis. There are no reports of recurrence after complete resection. Additionally, metastasis has not been reported in association with PCCC. Some investigators liken the biologic behavior and prognosis of PCCC to that of BCC.¹
- C.** Resection plus chemotherapy with low risk of recurrence — Incorrect. Surgical resection is the recommended therapy given nonaggressive behavior of PCCC without reports of recurrence or metastasis following complete excision.

D. Resection plus chemotherapy with high rate of recurrence — Incorrect. Surgical resection is the treatment of choice for PCCC. Recurrence has not been reported following complete excision.

E. Chemotherapy with high rate of recurrence — Incorrect. Surgical resection is the treatment of choice and is curative for PCCC.

Abbreviations used:

BCC: basal cell carcinoma

PCCC: primary cutaneous cribriform carcinoma

REFERENCES

1. Rütten A, Kutzner H, Mentzel T, et al. Primary cutaneous cribriform apocrine carcinoma: a clinicopathologic and immunohistochemical study of 26 cases of an under-recognized cutaneous adnexal neoplasm. *J Am Acad Dermatol.* 2009;61(4):644-651.
2. Luo MH, Huang YH, Ni YB, et al. Expression of mammaglobin and gross cystic disease fluid protein-15 in breast carcinomas. *Hum Pathol.* 2013;44(7):1241-1250.
3. Llamas-Velasco M, Pérez-González YC, Daudén E, Rütten A. GATA3 staining in primary cutaneous apocrine cribriform carcinoma: usefulness to differentiate it from breast cancer metastasis. *J Cutan Pathol.* 2018;45(5):348-351.
4. Ni YB, Tsang JYS, Shao MM, et al. GATA-3 is superior to GCDFP-15 and mammaglobin to identify primary and metastatic breast cancer. *Breast Cancer Res Treat.* 2018;169(1):25-32.
5. Bhargava R, Dabbs DJ. Immunohistology of carcinoma of unknown primary site. In: Dabbs DJ, ed. *Diagnostic Immunohistochemistry.* Pittsburgh, Pennsylvania: Elsevier; 2019:234-235.