Primary Mucinous Carcinoma of the Skin Mimicking Metastatic Breast Carcinoma to the Eyelid: A Case Report

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Abstract
Mucinous carcinoma of the breast is a type of cancer that accounts for less than 2% of invasive breast carcinomas and is associated with a relatively favorable prognosis. This is the case of a 60 year-old female patient who presented with an enlarging vascular lesion located at the left upper eyelid, clinically suggestive of a hemangioma. An excisional biopsy of the lesion was performed. The specimen consisted of an irregular fragment of dark gray rubbery tissue, covered by a thin lining of mucosa, which measured 1 cm in greatest dimension. It showed a central cystic area filled with gray fluid and blood. The microscopic examination revealed mucin pools containing numerous nests of neoplastic cells with glandular and solid architecture. The neoplastic cells were positive to estrogen receptor, progesterone receptor, GCDFP-15 and CK7; focally positive to mammaglobin and CA125, and negative to CK20, CDX2, CA19.9, TTF-1, and HER-2-NEU. Both the morphology and immunohistochemical stains expression is very consistent with the diagnosis of primary mucinous carcinoma of the eyelid. This is an exceedingly rare metastasis site for this kind of tumor.

I. Introduction
Mucinous carcinoma of the breast is a type of cancer that accounts for less than 2% of invasive breast carcinomas and is associated with a relatively favorable prognosis. Cutaneous mucinous carcinoma may be histologically indistinguishable from metastatic lesions, particularly of mammary derivation. The clinical presentation and immunohistochemical stains expression is very similar in the breast and cutaneous mucinous carcinoma. Clinical information is the most reliable tool to resolve the diagnostic problem.

II. Case Presentation
We present the case of a 60 year-old female patient with medical history of diabetes mellitus type II, controlled with oral medications, arterial hypertension, arthritis and gout. Her surgical history is remarkable for a total hysterectomy in 2002 due to uterine leiomomas. The patient presented with an enlarging skin lesion located at the left upper eyelid. The Ophthalmology Service evaluated her and her clinical impression was a vascular lesion, suggestive of a hemangioma. An excisional biopsy of the lesion was performed.

III. Pathology Examination
The specimen consisted of an irregular fragment of dark gray rubbery tissue, covered by a thin lining of mucosa, which measured 1 cm in greatest dimension. It showed a central cystic area filled with gray fluid and blood (Figure 1). The microscopic examination revealed mucin pools containing numerous nests of neoplastic cells with glandular and solid architecture (Figure 2). The neoplastic cells were positive to estrogen receptor (ER) (Figure 3), progesterone receptor (PR), Gross Cystic Disease Fluid Protein-15 (GCDFP-15) (Figure 4) and CK7; focally positive to mammaglobin and CA125, and negative to CK20, CDX2, CA19.9, TTF-1, and HER-2-NEU (Table 1). Since the possibility of metastatic disease was excluded, both the morphology and immunohistochemical stains expression is very consistent with the diagnosis of primary mucinous adenocarcinoma of the eyelid.

IV. Discussion
Primary mucinous carcinoma is a rare epithelial neoplasm showing a predilection for the head and neck region. This tumor usually presents in the middle-aged and elderly patients (median age: 62 years). Mucinous carcinoma is slightly more common in men than in women. Neoplastic cells express low molecular weight cytokeratins, CEA, and GCDFP-15. Nuclear expression of estrogen receptors may be strong, but the pattern of progesterone receptors is more variable. This immunohistochemical expression is similar to that seen in the mucinous carcinoma of the breast. Before a diagnosis of mucinous carcinoma is established, a primary carcinoma in the breast or another organ (salivary or lacrimal glands, gastrointestinal tract and ovary) must be sought and excluded, as the majority of cases of mucinous carcinoma in the skin are metastatic. Cutaneous mucinous carcinoma is a low-grade malignant neoplasm with a tendency to present at the original site but with a low metastatic potential. Ten percent of cutaneous mucinous carcinoma has been reported to metastasize to regional lymph nodes, but only 3% metastasized in a widespread fashion. In our case, after pathologic examination and immunohistochemistry studies, a thorough search for metastatic disease was performed. However, no radiological abnormalities were present, excluding the possibility of metastatic disease and confirming the diagnosis of primary mucinous carcinoma of the eyelid. This is an exceedingly rare case, not only for its diagnosis but also by the importance of considering the complete pathologic and clinical information in the diagnostic process.

V. References