Reply to: "Skin diseases of the breast and nipple: Benign and malignant tumors"

To the Editor: We recently read with great interest the first part of the 2-part series by Waldman et al, "Skin Diseases of the Breast and Nipple: Benign and Malignant Tumors."[1] This review masterfully depicts the multitude of dermatologic benign and malignant neoplasms that are known to affect the breast and nipple.

Despite the exhaustive description of breast adenocarcinoma in the "Malignant Tumors" section, we wish to shed light on a more obscure but equally relevant type, namely, sebaceous carcinoma of the breast. This entity warrants mentioning because of its clinicopathologic mimicry of other breast and areolar entities as well as the prognostic and diagnostic implications brought forth by its diagnosis.

Clinically, sebaceous carcinoma of the breast adopts the form of a palpable breast nodule with normal overlying skin in the vast majority of cases in the literature[2,3]; however, a morphologic presentation of brown plaque with an overlying confluence of yellow papules involving the areola and upper breast has also been described for this entity.[4] It is postulated that this tumor emerges from malignant transformation of pluripotent stem cells with the capacity to recapitulate a sebaceous morphogenesis.[3] Histologic analysis shows a central aggregate of large, clear cells encircled by smaller oval or fusiform, nonvacuolar, undifferentiated cells.[2,3] These 2 populations of cells amount to more than half of all tumor cells and are not connected to the skin.[2,3] On immunohistochemical analysis, breast sebaceous carcinoma frequently stains positive for estrogen receptors (ER), progesterone receptors (PR), p53 (tumor suppressor gene at 17p13, 53 kDa) and epithelial membrane antigen (EMA) and negative for human epidermal growth factor receptor 2 (HER-2) and gross cystic disease fluid protein 15 (GCDFP-15).[2] Most cases of sebaceous carcinoma of the breast respond favorably to appropriate therapy, with no sign of recurrence.[2]

Often, the diagnosis is made incidentally because the seemingly indolent clinical presentation, frequently mistaken for a breast fibroadenoma, obscures the malignant nature of this entity. In the rarer event of areolar involvement, the entity masquerades as Paget disease of the nipple.[4] On macroscopic and microscopic inspection of specimens sent for pathologic analysis, a keen eye is required to distinguish sebaceous carcinoma of the breast from lipid-rich carcinoma, apocrine carcinoma, and glycogen-rich clear-cell carcinoma.[2]

Immunohistochemical studies, possible microsatellite instability analyses, and even germline mutation analyses of mismatch repair proteins such as MutL homolog 1 (MLH-1), MutS homolog 2 (MSH-2), and MutS homolog 6 (MSH-6) are warranted in the patient with sebaceous carcinoma of the breast to rule out Muir-Torre syndrome.[5] Results of immunohistochemical studies of mismatch repair proteins have been negative in the few cases of sebaceous carcinoma of the breast tested so far.[3] However, 1 case of sebaceous carcinoma in situ affecting the breast was reported in a patient known to have Muir-Torre syndrome.[4]

In conclusion, sebaceous carcinoma of the breast presents a clinical and histologic challenge that affords the diagnosing physician the timely initiation of treatment with a generally favorable prognosis and the chance to detect and preemptively manage possible Muir-Torre syndrome.

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