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Metastatic Adenoid Cystic Carcinoma of the Breast

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A 68-year-old woman presented to dermatology clinic with a new scalp lesion. Patient had left breast adenoid cystic carcinoma in 2003 for which she underwent lumpectomy and adjuvant radiation therapy. Her tumor was negative for estrogen receptor (ER), progesterone receptor (PR), and human epidermal growth factor receptor 2 (HER2). In 2011, she was incidentally found to have right upper lobe mass on chest imaging. PET-CT showed no other site of disease. Biopsy of lung mass showed metastatic adenoid cystic carcinoma and she underwent right upper lobectomy (Fig. 1). The scalp lesion was resected in July, 2014 (Fig. 2). Numerous ducts were present within the proliferation with cribriform appearance consistent with known history of adenoid cystic carcinoma; immunohistochemistry again was negative for ER, PR, and HER2 (Fig. 3). Patient was complaining of worsening low back pain for 2 months. MRI of the entire spine showed multiple osseous metastatic lesions with the lesion at L2 lamina causing posterior compression of the conus medullaris (Fig. 4). Signs and symptoms of cauda equina syndrome were absent. CT scans and bone scan revealed extensive bone metastases including the right sided ninth rib, multiple vertebrae, proximal left humerus, and left iliac wing. Patient received palliative radiation therapy to the L2 spine lesion and was started on systemic chemotherapy with paclitaxel.

Adenoid cystic carcinoma of the breast is a rare malignancy with the incidence of less than 0.1% of all breast neoplasms. Immunohistochemistry is usually negative for ER, PR, and HER2. It is reported to have a very indolent course with excellent survival even in patients with metastatic disease. Treatment strategies have not been well studied given the rarity of this tumor type. Despite its favorable prognosis, it is intriguing how in this patient her disease progressed so rapidly, experiencing risk of severe complications such as nerve compression.

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CONFLICTS OF INTEREST

VM and JPL declare no competing interests.

Figure 1.
H&E stain on right upper lobe lung mass showing cords and nests of basaloid epithelial cells embedded in a myxoid stroma within the dermis. The cells have hyperchromatic nuclei with a rim of peripheral eosinophilic cytoplasm consistent with adenoid cystic carcinoma.

Figure 2.
H&E stain of scalp lesion showing similar morphology as in Figure 1.

Figure 3. Estrogen, progesterone, and Her2neu by immunohistochemistry performed on the scalp specimen shows negative staining pattern.

Figure 4. MRI of the lumbar spine showing multiple osseous metastatic lesions (white arrow). One such lesion (black arrow) seen at the L2 lamina causing posterior compression of the conus medullaris.