Replacement of the Bone Marrow with Metastatic Breast Cancer

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**Picture 1.** Histopathology of the bone marrow (A through D) and the primary breast tumor (E and F). Staining and magnification: A, H&E, ×100; B, H&E, ×400; C, anti-estrogen receptor (ER), ×100; D, anti-ER, ×400; E, H&E, ×200; F, anti-ER, ×200. The weaker nuclear staining of the bone marrow biopsy against the anti-ER antibody compared to the primary breast tumor is attributed to the decalcifying process of the former specimen.
A 30-year-old woman presented with persistent back pain. Computed tomographic (CT) scans and magnetic resonance images of the lumbar spine and the ilium suggested hypercellularity of the bone marrow (BM). A BM biopsy from the iliac crest revealed replacement of the hematopoietic tissues with tumor cells that infiltrated the stroma as solid nests or glands (Picture A, B). A CT scan of the chest disclosed multiple nodules of the right breast; core needle biopsies confirmed infiltrating ductal carcinoma (Picture E). Immunohistochemical assays of both the breast and BM biopsies showed that the tumor cells were positive for estrogen receptor (Picture C, D, F), but lacked progesterone receptor and HER-2/neu expression.

Microscopic involvement of the BM has been detected by sensitive immunohistochemistry; however replacement of the BM with metastatic breast cancer at presentation has been only occasionally described. Although this patient had the disseminated disease, she potentially benefits from hormone therapy.