

## Plasma-cell Mastitis with Two Other Concomitant Diseases



### To the Editor:

We report a case of plasma-cell mastitis, which was abnormal because the patient presented with 2 other concomitant medical conditions.

Plasma-cell mastitis is a rare, benign disease of unknown etiology and is clinically and radiographically indistinguishable from inflammatory breast cancer. Among others, infectious and autoimmune etiologies have been postulated.<sup>1,2</sup> Often, treatment is hampered by recurrence and fistula formation.<sup>2</sup> No treatment algorithm has been determined, although mastectomy is currently the only definitive treatment.

### CASE PRESENTATION

A 42-year-old African American woman presented with a painful left breast mass and altered mental status. Both the breast mass and mental status changes were noted 1 week prior. Family members reported that the patient had become increasingly somnolent the past week; however, she did have a baseline mental status described as being slow but capable of self-care. Family history was significant for uterine and thyroid cancers in 3 siblings. The patient had a history of menarche at age 9 years, negative smoking/drug/alcohol history, had never taken birth control, and had never conceived a child.

Physical examination of the breasts revealed a firm, round, erythematous mass in the upper outer quadrant of the left breast. No peau-de-orange or nipple discharge was seen; however, the left nipple was retracted. The right breast was normal. No cervical or axillary lymphadenopathy was noted.

A comprehensive metabolic panel and a complete blood count were only significant for a calcium level of 15 mg/dL.

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**Conflict of Interest:** None.

**Authorship:** All authors had access to this patient's data and were directly involved in the patient's care and in the writing of the manuscript.

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With this, the top differential diagnosis was hypercalcemia of malignancy. Computed tomography of the chest, abdomen, and pelvis was only significant for the left breast mass measuring 4.1 × 7.1 × 6.1 cm (**Figure 1**).

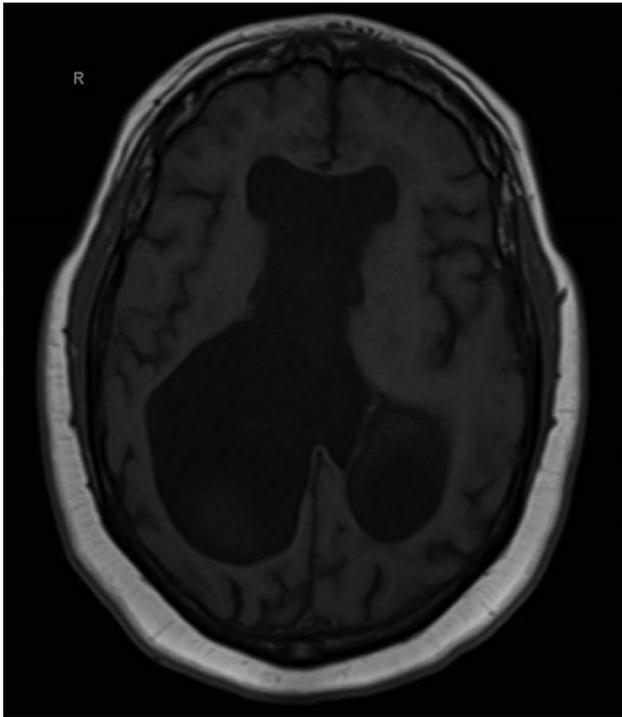
Magnetic resonance imaging of the brain was completed to determine the presence of metastases but was significant for enlargement of the lateral and third ventricles and a small fourth ventricle, believed to be of a chronic nature (**Figure 2**). Family members were not aware of any history of hydrocephalus, and neither was this detailed in any of the medical records available to the treating team.

Pathology results from a core biopsy of the breast mass showed aggregates of plasma cells, was negative for Lambda/Kappa immunostaining, and was suggestive of plasma-cell mastitis (**Figure 3**). The patient subsequently underwent a near-total mastectomy of the left breast.

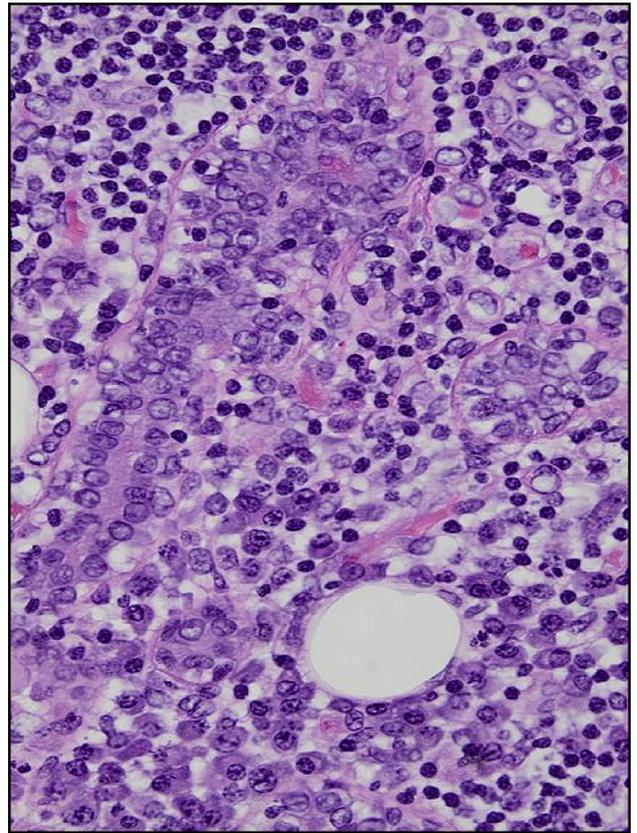
With resolution of the hypercalcemia and the diagnosis of plasma-cell mastitis, a parathyroid hormone level was drawn and was elevated to 1049 pg/mL. Thyroid ultrasound showed a 1.6 × 0.7 × 1.0-cm lesion inferior/posterior to the left thyroid lobe. A single-photon emission computed tomography scan confirmed the presence of an adenoma. In the



**Figure 1** Computed tomography scan, coronal view, of chest, abdomen, and pelvis significant for a large mass in the left breast.



**Figure 2** Magnetic resonance imaging brain scan showing a chronic hydrocephalus.



**Figure 3** Hematoxylin and eosin staining of mastectomy terminal duct lobular unit, showing mixed inflammatory infiltrate with numerous plasma cells at 400× magnification.

following months the patient underwent a parathyroidectomy, and parathyroid hormone levels returned to normal.

## DISCUSSION

Because of our patient's baseline mental incapacity and other concurrent diseases, it was thought that a definitive treatment (mastectomy) was necessary. In this case, the family and patient expressed satisfaction with the rendered treatment.

With this patient's history of chronic hydrocephalus and parathyroid adenoma, both of which were present concurrently, the possibility of an underlying autoimmune disease was high. No cases in the literature of plasma-cell mastitis reported similar concurrent diseases. This case provides further support that plasma-cell mastitis may have an underlying autoimmune etiology.

This was a very challenging case, with significant findings on every study. However, given this patient's initial diagnosis of inflammatory breast cancer, a clinical diagnosis, this case demonstrates that it is imperative to obtain a biopsy before initiating treatment for malignancy.

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