**Clinical Challenges**

**Inflammatory Breast Cancer**

**Case Study**

M.A., a 44-year-old female, is nulliparous, premenopausal, and single and has no chronic health problems. Four weeks ago, she had a small tattoo placed on the superior aspect of her right breast. She reports awakening one night with a severe aching pain in her right breast, rating it as a 4 on the 0–10 pain scale. The pain does not radiate and is not affected by activity.

The next day, her right breast appears erythematous compared to the rest of her chest wall and is painful to touch. She decides to seek treatment from an urgent care facility where she is examined by an internist who finds her afebrile; all other vital signs are normal. Review of systems is noncontributory other than the breast complaint. Examination reveals that M.A. is in no acute distress, with no abnormal findings except for the right breast’s moderate erythema, increased warmth to touch, and mild (1+) edema. No discrete masses are discovered on clinical breast examination. The tattoo site is not draining and appears to be well healed. The complete blood count is normal. The internist diagnoses M.A. with cellulitis secondary to placement of the tattoo. He prescribes oral antibiotics and schedules a bilateral diagnostic mammogram to be done the following day. The mammogram does not show any nodules or masses but reveals skin thickening on the lateral aspect of the right breast. The gynecologist refers M.A. to a comprehensive breast clinic at a nearby academic medical center, where she is examined by a breast surgeon, medical oncologist, and radiation therapist. An incisional biopsy of the skin is performed, but only inflammatory, not malignant, cells are found. The treatment team makes a presumptive diagnosis of inflammatory breast cancer based on the clinical presentation.

**Clinical Problem Solving**

Addressing this clinical challenge is Associate Editor Susan Moore, RN, MSN, ANP, AOCN®, an oncology nurse practitioner in the Division of Hematology and Oncology at Rush University Medical Center in Chicago, IL.

**Given the symptoms reported by M.A., what are the possible differential diagnoses that might delay a diagnosis of inflammatory breast cancer?**

M.A.’s case study is common among women with inflammatory breast cancer. Because no discrete breast mass exists and the presentation triad of pain, erythema, and edema is nonspecific, an infectious cause for the symptoms is usually the initial diagnosis and treatment is given accordingly. Only after the symptoms fail to respond to antibiotic therapy does further workup proceed, which can cause a delay of several weeks. The possible differential diagnoses for M.A.’s symptoms and presentation include mastitis, cellulitis, and inflammatory breast cancer.

**Mastitis** encompasses two distinct categories with respect to the timing of the onset: mastitis diagnosed during pregnancy or lactation and nonpuerperal mastitis. Mastitis can be chronic granulomatous or infectious. Regardless of the subtype, mastitis has several distinct characteristics on presentation: pain, swelling, and erythema in the affected breast. Most women with mastitis may have a fever and complain of feeling ill. Leukocytosis also is present (Johnson, 2003). Mastitis generally is unilateral and occurs with no tendency toward a particular quadrant of the breast.

Chronic granulomatous mastitis is a rare benign breast condition characterized by necrotizing granulomas and abscess, occurring primarily in women of childbearing age. Most women are diagnosed within five years of their last childbirth, but pregnant and lactating women are not immune to this disorder. Mammogram often reveals a radiographically visible mass. Chronic granulomatous mastitis mimics breast cancer in terms of physical and radiographic findings; however, definitive diagnosis can be confirmed only by histopathology (Azlina, Ariza, Ami, & Hisham, 2003). In a study of women with this diagnosis, breastfeeding, smoking, or hormonal treatment did not appear to be associated with patients’ diagnoses (Azlina et al.).

Nonpuerperal mastitis, also termed duct ectasia, breast abscess, or simple mastitis, has the clinical presentation of erythema, swelling, and painful infiltrate in the breast. Fever rarely is present. Most cases are of bacterial origin that may be evident on microbiologic examination of aspirate from the infiltrated area, which often is located in the major milk ducts behind the areola (Peters, Kiesslich, & Pahnke, 2002). Smoking is a risk factor for this form of mastitis. Most women present with an abscess that is easily detectable on sonographic examination.

Although benign mastitis is not considered a risk factor for invasive breast cancer, in a study of 277 patients with nonpuerperal mastitis, 5 women were independently identified as having breast cancer within 12 months following the benign mastitis diagnosis (Peters et al., 2003).

The solutions offered to the clinical problems posed in this column are the opinions of the author and do not represent the opinions or recommendations of the Oncology Nursing Society, the Oncology Nursing Forum, or the editorial staff. (Mention of specific products and opinions related to those products do not indicate or imply endorsement by the Oncology Nursing Forum or the Oncology Nursing Society.)

Susan Moore, RN, MSN, ANP, AOCN®
Associate Editor

Digital Object Identifier: 10.1188/05.ONF.907-911