

# HOSPITAL PHYSICIAN®

## ONCOLOGY BOARD REVIEW MANUAL

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The *Hospital Physician Oncology Board Review Manual* is a study guide for fellows and practicing physicians preparing for board examinations in oncology. Each manual reviews a topic essential to the current practice of oncology.

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## Management of Metastatic Breast Cancer

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## Management of Metastatic Breast Cancer

Jeffrey Peppercorn, MD, MPH

### INTRODUCTION

Breast cancer is the most common cancer affecting women and the second leading cause of cancer death among women. It is estimated that over 210,000 new cases of invasive breast cancer and 55,000 new cases of noninvasive ductal carcinoma in situ (DCIS) were diagnosed in the United States in 2005.<sup>1</sup> Nearly 40,000 women die from breast cancer each year.<sup>1</sup> An estimated 1700 cases occur annually among men, leading to approximately 450 deaths annually.<sup>2</sup>

Breast cancer is most commonly diagnosed at an early stage, when it is confined to the breast or axillary lymph nodes. Approximately 20% of women with early-stage disease will develop metastatic disease despite initial therapy.<sup>1</sup> Only 6% of patients present with distant, or metastatic, disease at the time of initial diagnosis. Among African-American women, metastatic disease at initial presentation is more common than among white women (9% versus 5%).<sup>1</sup> Metastatic breast cancer is generally considered incurable with current therapies, and the goals of care are to prolong survival and improve or maintain quality of life.

Therapy for metastatic breast cancer consists primarily of systemic therapies that can affect both visible and micrometastatic disease. Surgery and radiation therapies have a limited role in metastatic breast cancer, primarily related to palliation of local symptoms.

### CASE STUDY

#### INITIAL PRESENTATION

A 55-year-old woman presents to her medical oncologist complaining of back pain that has persisted despite management with a nonsteroidal anti-inflammatory drug for 2 weeks. Two years ago, she was treated for early-stage breast cancer involving her left breast and axillary lymph nodes. She currently remains on adjuvant hormonal therapy with tamoxifen. She also noticed an 8-lb weight loss over the past 6 months and occasional right upper quadrant discomfort. The patient is otherwise healthy.

#### • How does metastatic breast cancer present?

Patients with metastatic breast cancer most often present with symptoms. Among 1125 patients with metastatic breast cancer whose presentation was reviewed retrospectively, 58% were found to present with symptoms as the first indicator of disease recurrence, 32% were detected by self or physician examination, and only 10% were first identified on the basis of laboratory or radiologic studies.<sup>3</sup> Among this series, the most common sites of first recurrence were bone (38%), lung (19%), and chest wall/skin (16%). Liver was the first site of recurrence in 7% of patients, and brain in 1%. Some types of breast cancer are associated with a predisposition for certain distant sites of disease. For example, lobular breast cancer is more likely to metastasize to the gastrointestinal tract.<sup>4</sup> Likewise, human epidermal growth factor receptor-2 (HER2)-positive disease has been associated with an increased likelihood of metastasis to the central nervous system (CNS) compared with HER2-negative disease.<sup>5</sup>

The timing of breast cancer recurrence varies somewhat based on the hormone receptor status of the primary cancer. Hormone receptor-negative tumors are more likely to recur within the first 5 years after diagnosis, whereas hormone receptor-positive tumors tend to recur at a steady rate over time, such that by 10 years the recurrence rates are comparable.<sup>6</sup>

#### PATIENT WORKUP

The patient undergoes a magnetic resonance imaging (MRI) scan of her spine, revealing a lesion involving L4 with no evidence of cord compression. Further workup by bone scan and chest, abdominal, and pelvic computed tomography (CT) scans reveal multiple skeletal lesions suspicious for metastatic breast cancer as well as 3 liver lesions, with the largest measuring 4.5 cm. Liver biopsy is performed and pathology confirms metastatic adenocarcinoma consistent with her original breast cancer. The tumor stained positive for estrogen receptor, negative for progesterone receptor, and negative for HER2.

#### • How do biopsy results help in the management of metastatic breast cancer?