

The Patient Scenario

ASCO's 2010 EHR Lab

Patient Name: Roberta Herrera

Age: 51 years old

Gender: Female

Primary Care Physician

Dr. Robert Jones

Medical Team

Dr. Christopher McCauley, medical oncologist

Dr. James Lincoln, radiation oncologist

Dr. Carolyn Cook, surgical oncologist

Janet Jones, infusion nurse

Family History

Patient's mother developed breast cancer when she was 56-years-old and is alive and well.

Paternal aunt developed breast cancer when she was 75-years-old and died of breast cancer when she was 80-years-old.

Medical History

Ms. Herrera presented for routine mammography and was found to have a spiculated mass on the right breast that was 2.1 cm in size. A core needle biopsy was performed which showed invasive ductal carcinoma, grade II/III. The tumor was estrogen and progesterone receptor positive and HER-2 positive (IHC 2+, FISH amplified 3.5). The patient underwent sentinel node biopsy procedure removing 2 nodes, 1 of which was involved with breast cancer with a tumor aggregate of 0.7 cm. Staging CT and bone scan showed no evidence of metastatic disease.

- Past Medical History (PMH): The patient was previously well with an unremarkable PMH save for mild hyperlipidemia and has had no previous surgeries.
- Medications: Lipitor, vitamin D, and calcium. She is allergic to penicillin, developing hives after her last administration of this drug.

Chemotherapy Ordering

The patient elected to participate in a clinical trial where patients were randomized to one of two pre-operative regimens, either vinorelbine / trastuzumab or carboplatin / docetaxel / trastuzumab. This would be followed by surgery, and postoperative cyclophosphamide and doxorubicin. At the conclusion of the cyclophosphamide and doxorubicin, local regional radiation would be given and the patient would be given hormonal therapy.

The patient was randomized to pre-operative vinorelbine 25 mg/m² IV push weekly and trastuzumab, loading dose of 4 mg/kg, followed by weekly doses of 2 mg/kg.

She underwent 12 weeks of this therapy.

Dose Modification and Decision Support

This was followed by lumpectomy and axillary node dissection. At the conclusion of her pre-operative chemotherapy she was no longer menstruating. At surgery, her tumor was 0.4 cm in size with significant cell necrosis but was not a complete pathologic remission. Twelve axillary lymph nodes were removed, 3 of which were involved with metastatic cancer.

Subsequent to recovery from surgery, the patient underwent 4 cycles of standard dose cyclophosphamide (600 mg/m²) and doxorubicin (60 mg/m²) to be given Q 3 weeks.

Chemotherapy Ordering, Preparation and Administration Principles

At the conclusion of this study, a cardiac echo showed an LVEF of 58% (normal values $\geq 50\%$). The patient then initiated every 3-week trastuzumab. She received a loading dose of 8 mg/kg, then subsequent doses at 6 mg/kg per dose. In addition she is initiated on tamoxifen 20 mg per day.

The patient then underwent loco-regional radiation utilizing the 3 field technique, including the supraclavicular and internal mammary nodes.

Trastuzumab was continued for 6 months at which time an echocardiogram showed a LVEF = 48% and trastuzumab was stopped. Six weeks later, a repeat echocardiogram demonstrated an LVEF = 58% and trastuzumab was reinstated and continued until 12 months from the initiation of her initial trastuzumab as preoperative therapy. Tamoxifen was continued.

Treatment Summary and Patient Order / Reminder

Six months after completion of trastuzumab, the patient comes in for a routine visit and is feeling well. She is fully active without restrictions, with a performance status of 0. Her vital signs are normal and her physical exam is normal. Her first post-treatment mammogram shows no significant abnormalities. She continues her tamoxifen 20 mg per day. As she plans to spend four to five months with her daughter in New York, she has asked Dr. McCauley to provide her with a treatment summary. Dr. McCauley also orders a mammogram six months from now.

Quality Oncology Practice Initiative (QOPI)

Throughout the year, clinicians in Dr. McCauley's practice have been diligent about entering data into their EHR system and they now wish to participate in QOPI to determine how well their practice has performed on multiple clinical and administrative areas.