Balancing clinical and supportive care at every step of the disease continuum

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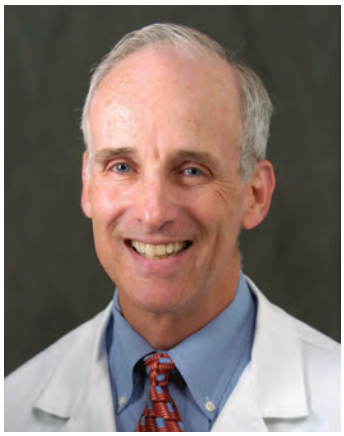
It seems it was just yesterday that we did our first "mutation analysis" to help guide us in our treatment of patients with a drug that was more likely to work than not. Of course, I am referring to estrogen-receptor/progesterone-receptor (ER/PR) blocking therapy, and "yesterday" actually goes all the way back to the 1970s! When tamoxifen was first given to unselected metastatic breast cancer patients, the response rate was low, but when the study population was "enriched" with breast cancer patients who were ER/PR-positive, the response rates improved and the outcomes were more favorable. So began the era of tumor markers and enriching patient populations, and the process now referred to as mutation analysis, which is becoming more broadly applicable to other tumors as well.



So where has the standard of care taken us today? Of course, all breast cancer patients are tested for estrogen receptor, progesterone receptor, and HER2/neu status, and even many in the adjuvant setting get the DNA analysis such as Oncotype DX or MammaPrint. Colon cancer now demands Ras family testing and even BRAF, because mutated BRAF patients are predicted to do poorly and their oncologists need to consider more novel therapies. And of course, there is lung cancer, which is addressed in this month's issue with a commentary and a basic science discussion of the resurgence of the drug, gefitinib (p. 385). We now test all patients with advanced lung cancer for *EGFR*, *ALK*, and *ROS1* mutations, where oral therapy may play a significant role. Erlotinib has been approved for some time for the treatment of *EGFR*-mutated lung cancer patients. Gefitinib, whose results in the same patient group were not as impressive, has since received approval from the US Food and Drug Administration as a first-line therapy in *EGFR*-mutated patients at a more effective dose.

In this modern era of cancer chemotherapy for patients with early or advanced disease, we always have to address the issue of chemotherapy-induced nausea and vomiting (CINV). Many of our antiemetic therapies are quite effective, such as the 5-HT_3 inhibitor class, or natural killer cell active class, as are steroids or anamnestics such as lorazepam. This month we rediscover olanzapine, which may well have activity as an addition to our regimen when used in combination with a single oral dose of dexamethasone 12 mg and repeat dosing of ondansetron for controlling acute and delayed CINV in patients who receive highly emetogenic chemotherapy (p. 388). Vo and colleagues report that this modified olanzapine regimen is noninferior to a standard fosaprepitant regimen and shows improved outcomes over fosaprepitant in the delayed phase of nausea. Benefits of the olanzapine regimen include improved control of CINV, a reduction of dexamethasone use, a reduction in infusion time since all of the drugs are taken orally, and significant reductions in costs.

In our attempt to always address all of the patient's needs while we are treating the cancer, there is the holistic approach to aspects of the disease that may help the patient psychologically, physically, and socially, and that therefore factor into improved therapeutic response and better patient quality of life and overall outcomes. One of those aspects is exercise, and although studies have demonstrated its benefits for cancer patients, little is known about what motivates patients to exercise. On page 392, Rhudy and colleagues examine the attitudes of family-member caregivers in promoting exercise among patients with late-stage lung cancer and the obstacles they face in doing so. The investigators report that the caregivers appreciate the importance of exercising and endorse it, but say that they often feel constrained in their ability to persuade the patient to exercise because of certain boundaries within the relationship, for example, a patient's pre-exisiting reticence or sensitivity about exercising or personal body image.

Another area in which we are trying to be more mindful is in regard to the cost of oncology patient care. It comes as no surprise that inpatient therapy is almost always more expensive than outpatient therapy. This is of course true for inpatient radiation therapy, which Pintova and colleagues on page 399 show increases length of stay and therefore costs. The inpatient option may be necessary if a patient is too sick to leave the hospital, but the investigators suggest that if it is at all possible, a transition to the

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outpatient setting is preferable. They note that on the basis of their findings, some policy changes have already been implemented at their institution. The changes include an expedited social work and physical therapy evaluation for all patients under consideration for inpatient radiation to explore the possibility of outpatient radiotherapy, and the establishment of a dedicated palliative radiation oncology consultation service.

Many will know of the case of Robin Roberts, the ABC news reporter, who had adjuvant breast cancer therapy and developed the rare complication of myelodysplastic syndrome (MDS), which required aggressive chemotherapy and a stem-cell transplant. On page 411, Ansari and colleagues report on the case of a patient with large-cell neuroendocrine lung cancer who developed treatment-related acute myelogenous leukemia with a likely prior treatment-related MDS after being receiving combined chemo-radiotherapy for lung cancer

November is lung cancer awareness month. Medical and health organizations, in concert with traditional and social media outlets, will move into top gear to promote awareness of the disease; educate people about the risk factors for getting it; and urge them to get screened for the disease – especially if they fall into a high-risk group – and of course, quit smoking. As practicing oncologists, in addition to participating in these preventative and awareness-raising endeavors, we might also be more proactive and deliberate in seeking out clinical trials for our patients with lung cancer. Our Community Translations column this month on the approval of gefitinib for patients with certain EGFR mutations who have non-small-cell lung cancer (p. 385), highlights the importance of patient participation in clinical trials. I've already mentioned the other articles in this issue that focus on lung cancer, one on exercise in patients with lung cancer and another on treatment-related MDS/AML in a patient with lung cancer.