New Directions in Oncology Nursing Care: Focus on Gefitinib in Patients With Lung Cancer

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Use of cytotoxic chemotherapy in the treatment of solid tumors has inherent safety and efficacy limitations, owing to the systemic toxicities of these agents and the chronic illnesses of patients receiving therapy. Chemotherapy agents do not discriminate between malignant and healthy tissues or organs; therefore, nonspecific toxicity to healthy tissues limits dosing of these agents (Herbst & Shin, 2002). In contrast, a key goal of a new class of cancer drugs, called molecular-targeted therapies, is to inhibit tumor growth and progression without harming other dividing cells. Clinically, this approach is expected to produce fewer and milder treatment side effects than chemotherapy. Several biologically based therapies that target molecules specific to tumor cells have been isolated and currently are under investigation in clinical trials.

Gefitinib (Iressa®, ZD1839, AstraZeneca Pharmaceuticals LP, Wilmington, DE) is a molecular-targeted therapy that is an inhibitor of the epidermal growth factor receptor-tyrosine kinase (EGFR-TK) enzyme, which frequently is aberrantly activated in tumor cells. This article briefly will review the basic science of EGFR-TK in solid tumors, summarize results of clinical trials with gefitinib, and familiarize oncology nurses with some of the clinical implications of this new targeted therapy.

Key Words: drug therapy, gefitinib, lung neoplasms

Roles of Epidermal Growth Factor Receptor-Tyrosine Kinase in Solid Tumors

EGFR is a growth-promoting protein found on the surface of many different types of tumor cells, including cancers of the lung, breast, and colon. Normally, EGFR is functionally active during embryonic development and its activity is limited in normal adult tissue. The EGFR protein spans the cell membrane, having segments outside and inside the tumor cell (see Figure 1) (Hackel, Zwick, Prenzel, & Ulrich, 1999; Prenzel, Fischer, Streit, Hart, &...
Ullrich, 2001; Raymond, Faivre, & Armand, 2000). The outer segment can bind to growth factors or ligands outside of the tumor cell. The inside segment contains a signal transduction enzyme, known as TK. Activation of EGFR-TK is a strong signal for tumor cells to grow and metastasize. In addition, EGFR-TK activity causes tumor cells to secrete angiogenic factors that stimulate formation of a tumor blood supply, providing nutrients and oxygen to the tumor. Activity of the EGFR-TK enzyme also inhibits programmed cell death, or apoptosis, which may contribute to the resistance of solid tumors to chemotherapy and radiation therapy.

In normal epithelial cells, EGFR-TK is strictly controlled to allow only limited cell growth for maintenance and repair processes. In cancer cells, the EGFR-TK enzyme is aberrantly activated, and this can result in tumor growth and progression. New pharmacologic agents have been designed that specifically target this increased EGFR-TK activity in tumor cells. Treatment of tumor cells with these EGFR-TK inhibitors (EGFR-TKIs) effectively inhibits tumor growth and progression and promotes cell death (Raymond et al., 2000; Woodburn, 1999). Several EGFR-TKIs, such as gefitinib, erlotinib (Tarceva™, OSI-774, OSI Pharmaceuticals, Melville, NY, and Genentech, Inc., South San Francisco, CA), CI-1033 (Pfizer Inc., New York, NY), GW572016 (GlaxoSmithKline, Research Triangle Park, NC), and PKI-166 (Novartis Pharmaceuticals Corporation, East Hanover, NJ), are being evaluated in clinical trials for the treatment of solid tumors.

![Figure 1. Structure and Function of the Epidermal Growth Factor Receptor-Tyrosine Kinase (EGFR-TK) Enzyme](image)

* EGFR-TK inhibitors act by inhibiting the activation of TK, thus blocking EGFR-dependent signal transduction and cellular activities.

Note. Based on information from Hackel et al., 1999; Prenzel et al., 2001; Raymond et al., 2000.

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**Review of Clinical Trial Results: Focus on Gefitinib**

A series of clinical trials demonstrated that gefitinib is an effective and well-tolerated treatment for patients with NSCLC who have received prior chemotherapy. Treatment with gefitinib resulted in tumor responses and improvements in lung cancer-related symptoms and quality of life in patients with advanced NSCLC (Douillard et al., 2002; Fukuoka et al., 2003; Kris et al., 2002; Natale et al., 2002).

In phase I studies evaluating escalating doses and the pharmacokinetics of gefitinib, doses of 250 mg per day and 500 mg per day were well tolerated and showed activity in heavily pretreated patients with a variety of advanced solid tumor types, including NSCLC (Baselga et al., 1999; Herbst et al., 2002; Ranson et al., 2002). Blood levels of gefitinib (based on previous pharmacologic studies) supported once-daily oral treatment with these doses for subsequent clinical trials (Baselga et al.; Herbst et al., 2002; Ranson et al.). In addition, molecular analysis of skin biopsies from patients before and during treatment demonstrated that EGFR-TK and downstream markers were inhibited effectively in patients treated with gefitinib (Albanell et al., 2002).

Iressa Dose Evaluation in Advanced Lung Cancer- (IDEAL-) 1 and IDEAL-2
were randomized, uncontrolled phase II trials that evaluated gefitinib doses of 250 mg per day or 500 mg per day in more than 400 patients with advanced NSCLC who had received prior chemotherapy (Fukuoka et al., 2003; Kris et al., 2002). IDEAL-1 evaluated gefitinib for second- or third-line treatment subsequent to platinum-based chemotherapy. IDEAL-2 investigated gefitinib for third-line or later treatment in patients who previously received platinum and docetaxel chemotherapies. These trials measured tumor responses, effects on lung cancer-related symptoms, quality of life, and safety profiles. Based on the results of IDEAL-1 and IDEAL-2, gefitinib was approved in the United States in May 2002 for third-line, single-agent treatment of NSCLC. U.S. Food and Drug Administration approval was dependent on the drug manufacturer conducting randomized, controlled clinical trials with measurable end points demonstrating clinical benefit such as improved survival or symptom management (Pfister et al., 2004). It is also approved in Australia and Japan for third-line treatment of NSCLC.

Efficacy Achieved With Gefitinib Treatment

Tumor responses, defined as a 50% or greater reduction in tumor mass, were achieved with gefitinib treatment in the IDEAL trials (see Figure 2) (Fukuoka et al., 2003; Kris et al., 2002). In IDEAL-1, tumor response rates after one or two prior regimens were 18% and 19% in patients who received gefitinib doses of 250 mg per day (n = 103) and 500 mg per day (n = 105), respectively (Fukuoka et al.). Disease control rates, defined as tumor response or stable disease for eight weeks or more, were 54% and 51%, respectively, for these doses (Fukuoka et al.).

For the 250 mg per day (n = 102) and 500 mg per day (n = 116) groups in IDEAL-2, tumor response rates in patients who had received at least two prior treatment regimens were 12% and 9%, respectively, and disease control rates were 42% and 36%, respectively (Kris et al.). Compared with response rates of 0%–2% obtained in the third-line or greater treatment setting, the 12% response rate achieved in IDEAL-2 represented a substantial improvement compared with current therapies. Results of a randomized, double-blind phase III trial combining gefitinib with standard chemotherapy in previously untreated patients showed no added benefit in survival or response rate compared with standard chemotherapy alone (Herbst et al., 2004).

Effect of Gefitinib on Non-Small Cell Lung Cancer-Related Symptoms

The IDEAL trials also included weekly assessments of lung cancer-related symptoms during gefitinib treatment. Effects of treatment on disease-related symptoms were evaluated using the Lung Cancer Subscale (LCS) of the Functional Assessment of Cancer Therapy–Lung (FACT-L) questionnaire, a tool that measures quality of life in patients with lung cancer (Cella et al., 1995). The LCS previously has been validated to be a sensitive and reliable patient-administered questionnaire to measure symptoms of lung cancer (Cella et al., 1995, 2001). Clinically meaningful symptom improvement has been defined as a two-point or greater increase in the LCS score that is sustained for at least four weeks (four LCS assessments) (Cella et al., 2001).

Clinically meaningful improvements in lung cancer-related symptoms (shortness of breath and chest tightness) were achieved with both dose levels of gefitinib (Douillard et al., 2002; Fukuoka et al., 2003; Kris et al., 2002; Natalie et al., 2002) (see Figure 3). In the 250 mg and 500 mg groups, symptom improvement was experienced by 40% and 37% of patients in IDEAL-1, and by 43% and 35% of patients in IDEAL-2 (Fukuoka et al.; Kris et al.). Symptom improvement was rapid, with median times to onset of symptom improvement in IDEAL-2 of eight days.

### Table 1. Selection of Lung Cancer Subscale Statements on Diary Card

<table>
<thead>
<tr>
<th>Statement</th>
<th>Not at All</th>
<th>A Little Bit</th>
<th>Somewhat</th>
<th>Quite a Bit</th>
<th>Very Much</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I have been short of breath.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. I have been coughing.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. I feel tightness in my chest.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. Breathing is easy for me.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. I am losing weight.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. My thinking is clear.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. I have a good appetite.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Note. Based on information from Cella et al., 1995.
and two weeks, respectively (Kris, 2002; Kris et al.; Natale et al.) (see Figure 4). Patients with objective tumor responses or stable disease were most likely to experience symptom improvements.

Quality-of-Life Improvements With Gefitinib Treatment

In the IDEAL trials, the quality of life of patients during treatment with gefitinib was assessed monthly using the FACT-L. The FACT-L questionnaire (version 4) is validated and comprehensive, yet brief, assessment of quality of life in patients with lung cancer. It is a self-report instrument that measures multiple dimensions of quality of life (see Figure 5) (Cella et al., 1995), including PWB, SWB, Emotional Well-Being, Functional Well-Being, and lung cancer-related symptoms with the LCS. Quality-of-life improvements were seen in 23%–34% of patients in the IDEAL trials, with similar rates of improvement seen for the 250 mg per day and 500 mg per day doses of gefitinib. A positive association was noted between symptom response and both radiologic response and survival (Douillard et al., 2002; Natale et al., 2002). Investigators in the IDEAL trials documented dramatic quality-of-life benefits for individual patients who had received gefitinib treatment. One patient was able to return to scuba diving, an older adult woman who was bedridden 50% of the time was able to walk two miles a day, a patient who was bound to a wheelchair was able to walk with assistance shortly after therapy commenced, and another patient was able to stop oxygen therapy after three months of treatment with gefitinib (Natale et al.).

Safety Profile of Gefitinib

The most frequently reported drug-related adverse events in the IDEAL trials were grades 1 and 2 skin rash and diarrhea (Fukuoka et al., 2003; Kris, 2002; Kris et al., 2002) (see Table 2). Chemotherapy-related adverse events, such as leukopenia, anemia, thrombocytopenia, alopecia, paresthesias, and infection, rarely were associated with gefitinib treatment (Fossella et al., 2000; Kelly et al., 2001; Kris et al.; Schiller et al., 2002). Although both doses of gefitinib were well tolerated, the number and severity of drug-related adverse events were increased in patients who received the higher dose. Therefore, toxicity was dose-dependent, even though both doses achieved similar tumor response rates. The 250 mg per day dose of gefitinib achieved similar benefits and was better tolerated by these patients.

Cutaneous and gastrointestinal effects have been described in trials of other EGFR-TKIs and monoclonal antibodies to EGFR that inhibit EGFR activity, indicating that these effects are likely to be mechanism-based (Dy & Adjei, 2002; Hidalgo et al., 2001; Van Doorn, Kirtschig, Scheffer, Stooft, & Giaccone, 2002). Investigators have hypothesized that cutaneous toxicities may be a direct consequence of interference with the signaling pathways of EGFR in the skin (Busam et al., 2001).

Nursing Care of Patients Receiving Gefitinib Treatment

The characteristic acneiform rash appears to be qualitatively similar in all affected individuals, consisting of maculopapular lesions and typically involving the perioral areas of the face as well as the upper trunk. Histopathologic examination of the affected areas

![Figure 4. Time to Symptom Improvement in Iressa Dose Evaluation in Advanced Lung Cancer-2 Trial](image)

**Note.** Based on information from Kris, 2002; Kris et al., 2002; Natale et al., 2002.

![Figure 5. Components of the Functional Assessment of Cancer Therapy–Lung Quality-of-Life Questionnaire](image)

**Note.** Based on information from Cella et al., 1995.

### Table 2. Skin and Gastrointestinal Adverse Events* in Iressa Dose Evaluation in Advanced Lung Cancer (IDEAL) Trials

<table>
<thead>
<tr>
<th>Event</th>
<th>% of Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IDEAL-1 (2nd or 3rd-Line International Trial)</td>
</tr>
<tr>
<td></td>
<td>250 mg per Day (N = 103)</td>
</tr>
<tr>
<td>Gastrointestinal</td>
<td></td>
</tr>
<tr>
<td>Diarrhea</td>
<td>41</td>
</tr>
<tr>
<td>Nausea</td>
<td>13</td>
</tr>
<tr>
<td>Vomiting</td>
<td>6</td>
</tr>
<tr>
<td>Skin</td>
<td></td>
</tr>
<tr>
<td>Rash</td>
<td>47</td>
</tr>
<tr>
<td>Acne</td>
<td>13</td>
</tr>
<tr>
<td>Dry skin</td>
<td>27</td>
</tr>
<tr>
<td>Pruritus</td>
<td>30</td>
</tr>
</tbody>
</table>

* Patients may have had more than one drug-related event.

**Note.** Based on information from Fukuoka et al., 2003; Kris, 2002; Kris et al., 2002.
revealed a thinner stratum corneum, one of the cell layers in the skin, with some loss of normal configuration as well as acute folliculitis (Albanell et al., 2002). In the IDEAL trials, although patients usually presented with a rash by the second week of treatment, it resolved gradually with only occasional residual hyperpigmentation. Treatment with topical antibiotics and emollients minimized the rash and dry skin in some instances but not in all (Hidalgo et al., 2001; Van Doorn, Kirtschig, Scheffer, Stoof, & Giaccone, 2002). Discontinuation of gefitinib because of skin toxicity rarely was necessary (Natale & Zaretsky, 2002; Ranson et al., 2002; Van Doorn et al.).

Mild gastrointestinal side effects (diarrhea and mild nausea) frequently have been observed in patients receiving treatment with gefitinib. Investigators noted that patients have responded well to over-the-counter medications such as Imodium® (loperamide, McNeil Consumer and Specialty Pharmaceuticals, Fort Washington, PA) (Herbst et al., 2002; Natale & Zaretsky, 2002; Ranson et al., 2002). Other EGFR-TKIs and monoclonal antibodies to EGFR under development also produce gastrointestinal side effects that are thought to be mechanism based. Taking the medication at bedtime may help to alleviate nausea if patients are experiencing this side effect (Dy & Adjei, 2002; Hidalgo et al., 2001; Murren et al., 2002; Perez-Soler et al., 2001; Rinehart et al., 2002; Van Doorn et al., 2002).

Less than 1% of patients treated with gefitinib experienced interstitial lung disease (ILD). This frequency is similar to ILD rates when this patient population is treated with chemotherapy or radiation therapy (Schwartz, 2002). ILD may be caused by a variety of factors, including infections, progressive disease, or concomitant medications. In patients being treated for lung cancer, any exacerbation or worsening of pulmonary symptoms (increased shortness of breath or cough) or the onset of new pulmonary symptoms always should be evaluated promptly to rule out potential treatment-related causes.

**Implications for Nursing Practice With Gefitinib Treatment**

Oncology nurses play a key role in educating patients about therapies, especially concerning the expectations for potential clinical benefits, treatment side effects, and possible drug-drug interactions. Patients need to be aware that an acneiform rash and diarrhea are expected side effects of gefitinib treatment and that they should contact their oncology nurses if these side effects occur. Although these effects have not typically led to therapy discontinuation, they may require assessment, monitoring, and management. Based on the author’s experience, patients should be aware that the rash likely will decrease in severity or completely resolve over time while they are on therapy. Management of gefitinib-associated rash has no standard approach because it usually is mild and improves over time. Standard therapies for managing dryness, itching, or secondary infection should be used where indicated. Based on the author’s experience, over-the-counter antidiarrheal treatments, such as loperamide, have managed mild and moderate diarrhea associated with gefitinib treatment effectively. Table 3 delineates the nursing management of some common side effects associated with treatment with gefitinib. Patients must keep in contact with their nurses to help manage these side effects should they occur.

Patients also need to be aware of potential drug interactions. Gefitinib is metabolized predominantly in the liver by the cytochrome P450 enzyme system, particularly CYP3A4. Substances that are known to potentially inhibit CYP3A4 include itraconazole and erythromycin, as well as other drugs. Inhibitors can increase gefitinib plasma concentration levels and thus increase adverse effects. Alternatively, substances that induce CYP3A4 activity may increase metabolism and, therefore, decrease gefitinib plasma concentration levels, diminishing the drug’s efficacy. Drugs known to induce CYP3A4 activity include, but are not limited to, phenytoin, carbamazepine, phenobarbital, and the herbal remedy St. John’s wort. Patients taking warfarin should be monitored

<table>
<thead>
<tr>
<th>System</th>
<th>Side Effect</th>
<th>Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cutaneous</td>
<td>Dry skin</td>
<td>Use lotions and emollients (e.g., Vaseline Intensive Care® lotion [Unilever Canada, Inc., London, UK], Curel® [Andrew Jergens Company, Cincinnati, OH], Neutrogena® [MatTek Corp., Ashland, MA]). Avoid lotions or creams with alpha hydroxy acid.</td>
</tr>
<tr>
<td></td>
<td>Acneiform rash</td>
<td>Wash with a mild soap (e.g., basis® [Biersdorf, Inc., South Norwalk, CT], Neutrogena®). For mild facial acne, an over-the-counter product such as Clearasil® (Boots Healthcare Ltd., Nottingham, UK) may be helpful. If acne is persistent or severe, topical clindamycin gel or topical silver sulfadiazine, and/or an oral antibiotic (minocycline) may be prescribed by your healthcare provider. A short course of oral steroids may be helpful (rarely needed).</td>
</tr>
<tr>
<td></td>
<td>Pruritus</td>
<td>Manage dry skin as recommended above. Use oral diphenhydramine as needed every six hours.</td>
</tr>
<tr>
<td></td>
<td>Vaginal dryness</td>
<td>A water-based lubricant may ease dryness, especially during sexual intercourse.</td>
</tr>
<tr>
<td></td>
<td>Cracked skin (fissures) around cuticles of fingers and toes</td>
<td>Keep hands and feet well moisturized. Moisturizing hands and feet before bedtime and wearing cotton gloves and socks may be helpful. Report any sign of redness or swelling to healthcare team.</td>
</tr>
<tr>
<td></td>
<td>Sensitivity to sun</td>
<td>Wear a sunscreen with a sun protection factor of 15 or greater during sun exposure.</td>
</tr>
<tr>
<td>Gastrointestinal</td>
<td>Diarrhea</td>
<td>Consider loperamide (4 mg at first onset, followed by 2 mg every two to four hours until diarrhea free). Suggest carrying loperamide on person. Maintain adequate oral fluid intake to prevent dehydration.</td>
</tr>
<tr>
<td></td>
<td>Dry mouth</td>
<td>Encourage basic oral hygiene (e.g., using soft toothbrush). Report oral discomfort to healthcare team.</td>
</tr>
<tr>
<td>Respiratory</td>
<td>Increased dyspnea</td>
<td>Assess for changes in respiratory status.</td>
</tr>
<tr>
<td>Whole body</td>
<td>Fatigue</td>
<td>Consider taking gefitinib in the evening or at bedtime. Plan rest periods as needed.</td>
</tr>
</tbody>
</table>

Note: Based on information from Hogan & Berg, 2001, and the author’s experience.
regularly for changes in their prothrombin time or international normalized ratio because of unknown pharmacokinetics between warfarin and gefitinib (AstraZeneca Pharmaceuticals LP, 2004).

As with any patient receiving chronic therapy, nurses and other clinicians should carefully evaluate patients’ concomitant medications (acute and chronic) and herbal supplements on a regular basis to avoid potential drug interactions with gefitinib. Patients should be encouraged to bring their medications to follow-up visits for a CYP3A4 evaluation. Figure 6 lists information about gefitinib regarding side effects and their management that can be given to patients.

**Conclusions**

Gefitinib, an oral EGFR-TKI, represents a new treatment option for patients with advanced NSCLC. Clinical trial results have demonstrated that gefitinib treatment at 250 mg per day may provide tumor responses and improvements in lung cancer-related symptoms with good tolerability. In addition, the oral once-daily formulation offers a convenient treatment for patients.

For the 250 mg per day dose of gefitinib, tumor responses were achieved in 12% of patients who had received prior chemotherapy with platinum and docetaxel (Kris, 2002). In a previous retrospective study, only 0%–2% of these patients had achieved tumor responses with additional chemotherapy (such as gemcitabine) (Massarelli et al., 2003).

Symptom management is a key treatment goal in patients with advanced NSCLC (Feld, Ginsberg, Payne, & Shepherd, 2000; Ginsberg et al., 2001). Results of the IDEAL trials showed that gefitinib has the potential for rapid and dramatic improvements in lung cancer-related symptoms such as shortness of breath and chest tightness (Douillard et al., 2002; Natale et al., 2002). Clearly, lung cancer-related symptoms experienced by patients with advanced NSCLC directly impact their performance status and quality of life. Gefitinib treatment is not associated with hematologic adverse effects that are common with the cytotoxic chemotherapy agents used to treat NSCLC. Because EGFRs are not expressed on hematopoietic cells, adverse events such as bone marrow suppression are rarely seen with gefitinib treatment.

The IDEAL trials have demonstrated that gefitinib has single-agent efficacy in advanced NSCLC in second- and third-line treatment settings. In the first-line setting, addition of gefitinib to two-agent chemotherapy regimens did not result in survival benefits. Although some data are promising, gefitinib is similar to other treatment regimens used as salvage therapy in that it benefits a minority of patients (Pfister et al., 2004). Additional clinical trials are exploring the potential use of gefitinib following or preceding chemotherapy in NSCLC as well as in other solid tumors, including head and neck, breast, and colorectal cancers. EGFR-TK is also a pivotal molecule in the growth and progression of these solid tumor types (Baselga & Mendelsohn, 1997; de Bono & Rowinsky, 2002; Mesa, Russo, Caruso, & Di Leo, 1998). Other trials are investigating long-term treatment with gefitinib for early-stage cancers and even for chemoprevention (Averbuch, 2002; Lonardo et al., 2002).

As targeted therapies such as gefitinib become available for clinical use, oncology nurses will assume new roles for patient management. The treatment of NSCLC and other solid tumors is evolving to include a new emphasis on treatment convenience and tolerability in conjunction with tumor responses and survival. Cancer medications that are taken by patients at home are changing the way oncology nurses interact with patients and their families.

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**References**

receptor (EGFR) tyrosine kinase inhibitor OSI-774, following platinum-based chemotherapy, in patients (pts) with advanced, EGFR-expressing, non-small cell lung cancer (NSCLC) [Abstract 1235].


For more information on this topic, visit the following Web sites.

**Alliance for Lung Cancer Advocacy, Support, and Education**
www.alcase.org

**LungCancer.org**
www.lungcancer.org

**MedlinePlus: Lung Cancer**
www.nlm.nih.gov/medlineplus/lungcancer.html

*Links can be found at www.ons.org.*

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**Rapid Recap**

**New Directions in Oncology Nursing Care: Focus on Gefitinib in Patients With Lung Cancer**

- Treatment of solid tumors, including lung cancer, with chemotherapy commonly is associated with debilitating and sometimes life-threatening side effects.
- Gefitinib belongs to a new class of biologically based, molecular-targeted therapies with a novel mechanism of action: selective inhibition of epidermal growth factor receptor tyrosine kinase activity.
- Molecular-targeted therapies such as gefitinib are providing new treatment options for patients and adding a new dimension to clinical practice for oncology nurses.
- In clinical trials, treatment with gefitinib resulted in durable tumor responses and improvement of lung cancer-related symptoms in patients with advanced non-small cell lung cancer.
- Once-daily 250 mg oral treatment with gefitinib is well tolerated, with grades 1 and 2 rash and diarrhea as the most commonly observed side effects.
- The integration of novel agents such as gefitinib into oncology practice will require oncology nurses to be aware of their use and safety profile, as well as how to best treat the unique adverse events that might be associated with these agents.