



## Severe Acneiform Rash

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### Case Study

Ms. B is a 42-year-old woman with metastatic colorectal cancer in her liver and lungs. Although she has received multiple cycles of chemotherapy, including combinations such as 5-fluorouracil, capecitabine, oxaliplatin, and irinotecan, a recent computed axial tomography scan showed that her disease was progressing. After testing for the presence of an epidermal growth factor receptor (EGFR) in her original tumor pathology, Ms. B began treatment with cetuximab and irinotecan chemotherapy weekly for four out of six weeks. A loading dose of cetuximab was given with irinotecan, which was well tolerated. When the patient came in for the second week's treatment at the maintenance dose, she exhibited several scattered acne-like lesions that were a mild papulopustular type, similar to previous acne-like, skin eruptions the patient had experienced on and off during her lifetime. The healthcare team ultimately decided to proceed with the second maintenance dose.

Five days after the second dose, the patient called the clinic complaining of a severe acne rash. When she arrived at the clinic, she wore a handkerchief over her face to cover her skin lesions. Once in the examination room, she removed the handkerchief to reveal a severe, acneiform rash with follicular papulopustular lesions covering her cheeks, nose, forehead, and scalp, which were very distressing for Ms. B (see Figure 1). Although the rash was not pruritic, the patient described it as uncomfortable, particularly because of the extensive scalp involvement. The rash had spread in a "V" pattern to her chest and back. Therapy was held, and the patient was sent for a dermatology consult for suggestions in management of the rash.



FIGURE 1. FOLLICULAR PAPULOPUSTULAR LESIONS

### Discussion

**Epidermal growth factor receptor therapy:** Cellular processes depend on cell membrane receptors to control the intercellular signal transduction pathways. These pathways are responsible for cell proliferation, apoptosis, angiogenesis, adhesion, and motility (Baselga, 2002). The EGFR is one of the cell membrane receptors that control these activities, specifically growth and survival of tumor cells, and is expressed in many different types of solid tumors, including head and neck, colorectal, pancreatic, lung, prostate, and breast cancers (Baselga; Wood, 2002). Targeting the EGFR pathways has led to the development of

new anticancer agents. Compared to conventional chemotherapy, targeted therapies with increased specificity are potentially more efficacious because they may lessen the toxicities that patients may experience (Baselga; Wood).

Cetuximab (Erbix™, ImClone Systems Incorporated & Bristol-Myers Squibb Company, Princeton, New Jersey) is indicated for the treatment of EGFR-expressing metastatic colorectal carcinoma in patients refractory to or intolerant of irinotecan-based chemotherapy (ImClone Systems Incorporated & Bristol-Myers Squibb Company, 2004). Skin reactions are common in patients receiving cetuximab therapy; in fact, approximately 90% of patients receiving the monoclonal antibody will experience skin reactions of varying severity (ImClone Systems Incorporated & Bristol-Myers Squibb Company). Other side effects of therapy include the potential for severe infusion reactions and pulmonary toxicity. Once dermatologic toxicities

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