

## Management of the side effects

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Cancer treatment is being transformed, with entirely new classes of drugs now available. Targeted therapies or “smart drugs” specifically inhibit genes, proteins, or processes involved in cancer development, thus sparing a greater number of healthy cells. One excellent cancer drug target is epidermal growth factor receptor (EGFR, also called ErbB1 and HER1). EGFR is a member of a family of proteins called receptor tyrosine kinases, which control vital cell processes such as proliferation, migration, and survival. When the two classes of EGFR inhibitors (EGFRIs), small molecule inhibitors or monoclonal antibodies, block EGFR on normal tissues, they cause class-specific toxicities, such as acneiform rash, dry skin, fissures, and nail and hair disorders, and they also cause diarrhoea, ocular toxicities, infusion and hypersensitivity reactions, mucositis, and imbalances of some electrolytes. The VEGF signaling pathway (including ligands, surface-bound receptors and intracellular downstream signaling cascades) is critically involved in angiogenesis under normal and pathological conditions, in particular in malignant tumors. As a consequence, several therapies that target specific components of this pathway have been approved for clinical use or are in various stages of clinical development. Currently, some monoclonal antibodies and some of the small-molecule kinase inhibitors, have been approved for cancer therapy. The spectrum of side effects include hypertension, proteinuria, wound healing problems, peripheral sensory neuropathy, stomatitis, skin dryness, skin discoloration and exfoliative dermatitis. In contrast, unwanted cutaneous side effects seen with the less specific small molecule compounds include pruritic exanthems, nail changes, cheilitis and the painful hand-foot-syndrome.

Many of these side effects are new to oncology nurses. These differ from the toxicities that oncology teams regularly observe with conventional chemotherapy regimens, such as nausea, vomiting, and myelosuppression. All of these side effects need special attention and health care providers need to be trained to help patients deal with these toxicities.