Panitumumab (Vectibix)

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Panitumumab is a human monoclonal antibody antagonist specific to the EGFR (also known as EGF receptor, c-erbB-1, and HER1 in humans). It is indicated as a single agent for the treatment of metastatic colorectal carcinoma with disease progression on or following fluoropyrimidine, oxaliplatin, and irinotecan chemotherapy regimens. Drug approval by the FDA is based on progression-free survival; no formal pharmacokinetic studies of panitumumab have been conducted in patients with renal or hepatic impairment, to our knowledge.

The most common adverse reactions (>20%) are skin toxicities (ie, erythema, dermatitis acniform, pruritus, exfoliation, rash, and fissures), paronychia, hypomagnesemia, fatigue, abdominal pain, nausea, diarrhea, and constipation. The most serious adverse events with the administration of panitumumab include pulmonary fibrosis, pulmonary embolism, and severe dermatologic toxicity. Electrolyte levels should be monitored along with clinical signs of dermatologic and ocular toxicity.

Economic Issues
Like other genetically engineered monoclonal antibodies, panitumumab is quite expensive, and the costs can vary widely from country to country. Panitumumab costs approximately $3000 per treatment in the United States based on an average healthy male weight of 70 kg.

References
Fig 1. Schematic illustration of the proposed mechanism of panitumumab. Panitumumab is a monoclonal antibody that binds to the extracellular portion of the EGFR preventing dimerization and the cascade that leads to the expression of growth factors. (Illustration courtesy of Carolyn Nowak.)