Cetuximab (Erbitux®)

Pronounced: se-TUX-i-mab

Classification: Monoclonal Antibody

About Cetuximab (Erbitux®)

Monoclonal antibodies are created in a lab to attach to the targets found on specific types of cancer cells. The antibody “calls” the immune system to attack the cell it is attached to, resulting in the immune system killing the cell. These antibodies can work in different ways, including stimulating the immune system to kill the cell, blocking cell growth or other functions necessary for cell growth.

Cetuximab is a man-made version of a naturally occurring human/mouse antibody that inhibits the epidermal growth factor receptor (EGFR). The EGFR is a protein that is abnormally over-expressed in many cancers, and the inhibition of EGFR results in a decrease in tumor cell growth and decreased production of other factors responsible for metastasis (spreading of cancer). This medication treats both head and neck and colorectal cancer. The colorectal cancer needs to test positive for the k-ras wild type. Your cancer cells will be tested for this mutation.

How to Take Cetuximab

Cetuximab is given through intravenous (IV, into a vein) infusion. The dose is based on your size and how often you receive the medication depends on which disease you are being treated for and what other treatments you are receiving. Before your first dose, you will be given a pre-medication such as diphenhydramine (Benadryl) to prevent an infusion reaction. Whether or not you receive pre-medications before subsequent doses will be at the discretion of your care team. Your dose may be changed if you have a reaction to the medication.

Possible Side Effects

There are a number of things you can do to manage the side effects of cetuximab. Talk to your care team about these recommendations. They can help you decide what will work best for you. These are some of the most common or important side effects:

Infusion Reaction

Some patients will develop a reaction to the medication. This most commonly occurs with the first dose. Reactions can cause chills, fever, shortness of breath, difficulty breathing, hoarseness, itching, or low blood pressure. Tell your nurse right away if you experience any of these. You will be given medication prior to the infusion to help prevent this reaction. You will be monitored for at least 1 hour after the completion of your infusion.

Heart Problems

Cetuximab can cause heart problems including cardiac arrest and heart attack. Patients with a prior history of coronary artery disease and/or receiving radiation therapy are at highest risk. Notify your healthcare team or go to the emergency room immediately if you experience chest pain, shortness of breath, or feel dizzy or faint.

Electrolyte Abnormalities

This medication can impact the electrolyte levels in your blood; including magnesium, calcium, and potassium. This can even occur after the completion of treatment. Your healthcare team will monitor your electrolyte levels during treatment, and for at least 8 weeks following the completion of treatment.
**Nail and Skin Changes**

Cetuximab has some unique nail and skin side effects that you may develop. Patients may develop a rash. While this rash may look like acne, it is not, and should not be treated with acne medications. The rash may appear red, swollen, crusty and dry, and feel sore. You may also develop very dry skin, which may crack, be itchy or become flaky or scaly. The rash may be the worst during the first few weeks of treatment but may continue until treatment is stopped. Tips for managing your skin include:

- Use a thick, alcohol-free emollient lotion or cream on your skin at least twice a day, including right after bathing.
- Sun exposure can worsen the rash. Use a sunscreen with an SPF of 30 or higher and wear a hat and sunglasses to protect your head and face from the sun.
- Bathe in cool or lukewarm water and pat your skin dry.
- Use soaps, lotions, and laundry detergents without alcohol, perfumes, or dyes.
- Wear gloves to wash dishes or do housework or gardening.
- Drink plenty of water and try not to scratch or rub your skin.
- Notify your healthcare team if you develop a rash as they may have management suggestions and/or prescribe a topical medication to apply to the rash or an oral medication.

While receiving cetuximab, you may develop an inflammation of the skin around the nail bed/cuticle areas of toes or fingers, which is called paronychia. It can appear red, swollen or pus filled. Nails may develop "ridges" in them or fall off. You may also develop cuts or cracks that look like small paper cuts in the skin on your toes, fingers or knuckles. These side effects may appear several months after starting treatment but can last for many months after treatment stops.

- Follow the same recommendations for your skin (above).
- Don't bite your nails or cuticles or cut the cuticles.
- Keep your fingernails and toenails clean and dry.
- You may use nail polish, but do not wear fake nails.
- Notify your doctor or nurse if any nails fall off or you develop any of these side effects or other skin abnormalities.

**Sun Sensitivity**

This medication can make your skin more sensitive to the sun, which can result in severe sunburn or rash. Sun sensitivity can last even after chemotherapy is completed. Limit sun exposure while receiving this medication, and for two months following the last dose. Avoid the sun between 10-2pm, when it is strongest. Wear sunscreen (at least SPF 15) everyday; wear sunglasses, a hat, and long sleeves/pants to protect your skin and seek out shade whenever possible.

**Fatigue**

Fatigue is very common during cancer treatment and is an overwhelming feeling of exhaustion that is not usually relieved by rest. While on cancer treatment, and for a period after, you may need to adjust your schedule to manage fatigue. Plan times to rest during the day and conserve energy for more important activities. Exercise can help combat fatigue; a simple daily walk with a friend can help. Talk to your healthcare team for helpful tips on dealing with this side effect.

**Nausea and/or Vomiting**

Talk to your oncology care team so they can prescribe medications to help you manage nausea and vomiting. In addition, dietary changes may help. Avoid things that may worsen the symptoms, such as heavy or greasy/fatty, spicy or acidic foods (lemons, tomatoes, oranges). Try saltines, or ginger ale to lessen symptoms.

Call your oncology care team if you are unable to keep fluids down for more than 12 hours or if you feel lightheaded or dizzy at any time.

**Muscle or Joint Pain/Aches and Weakness**

Your healthcare provider can recommend medications and other strategies to help relieve pain.

**Less common, but important side effects can include:**

- **Hair Changes:** While receiving cetuximab, your eyelashes may grow very fast, become very long and bother your eyes.
Speak to your provider about how to best manage this side effect. The hair on your head may become curly, fine, or brittle. These changes tend to resolve once treatment is stopped.

- **Lung Problems**: Cetuximab can cause interstitial lung disease (ILD), especially in those with pre-existing lung problems. You may have breathing tests (pulmonary function tests) performed periodically. Call your physician right away if you have shortness of breath, cough, wheezing, or difficulty breathing.

**Reproductive Concerns**

Exposure of an unborn child to this medication could cause birth defects, so you should not become pregnant or father a child while on this medication. If you do become pregnant, your care team will decide whether or not you should receive the medication. Effective birth control is necessary during treatment and for 6 months after treatment has stopped. Even if your menstrual cycle stops or you believe you are not producing sperm, you could still be fertile and conceive. You should not breastfeed while receiving this medication, and for 2 months after your last treatment.