Pertuzumab (Perjeta®)

**Pronounced:** per-TOO-zoo-mab

**Classification:** Monoclonal Antibody

**About Pertuzumab (Perjeta®)**

Pertuzumab is a type of monoclonal antibody. 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.

Pertuzumab targets HER2-positive breast cancer cells. HER2 is overexpressed in about 25 – 30% of breast cancers. HER2 receptors on cells send signals telling the cell to grow and divide. Cancers that overexpress HER2 have too many receptors, which cause the cells to grow and divide more quickly. By inhibiting HER2, signals are sent to these cells to slow their growth. This medication may be given in conjunction with trastuzumab because they target different areas of the Her-2 cells.

**How to Take Pertuzumab**

Pertuzumab is given intravenously (IV, into a vein). The number of doses and how often you receive the infusion will be determined by your health care provider. This medication may be used in combination with other chemotherapy medications. Because pertuzumab is indicated only for the treatment of HER2 positive cancer, a sample of your tumor will be tested in a lab to determine if it is HER2 positive prior to starting treatment.

**Possible Side Effects of Pertuzumab**

There are a number of things you can do to manage the side effects of pertuzumab. 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:

**Heart Problems**

Pertuzumab can cause heart problems, or worsen pre-existing heart problems, including congestive heart failure. Your heart function will be tested using an echocardiogram or MUGA scan prior to starting treatment with pertuzumab, and every couple of months while on treatment and after completion of treatment. Notify your healthcare provider if you have a sudden weight gain or swelling in the ankles or legs. If heart function decreases, pertuzumab may be stopped.

**Diarrhea**

Diarrhea can be a serious side effect that can lead to dehydration. Notify your healthcare provider if you develop diarrhea.

Your oncology care team can recommend medications to relieve diarrhea. Also, try eating low-fiber, bland foods, such as white rice and boiled or baked chicken. Avoid raw fruits, vegetables, whole-grain breads, cereals, and seeds. Soluble fiber is found in some foods and absorbs fluid, which can help relieve diarrhea. Foods high in soluble fiber include applesauce, bananas (ripe), canned fruit, orange sections, boiled potatoes, white rice, products made with white flour, oatmeal, cream of rice, cream of wheat, and farina. Drink 8-10 glasses of non-alcoholic, un-caffeinated fluid a day to prevent dehydration.

**Loss or Thinning of Scalp and Body Hair (Alopecia)**

Your hair may become thin, brittle, or may fall out. This typically begins two to three weeks after treatment starts. This hair loss
can be all body hair, including pubic, underarm, legs/arms, eyelashes, and nose hairs. The use of scarves, wigs, hats and hairpieces may help. Hair generally starts to regrow soon after treatment is completed. Remember your hair helps keep you warm in cold weather, so a hat is particularly important in cold weather or to protect you from the sun.

Nausea and 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.

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.

Muscle or Joint Pain/Aches and Headache

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

Nail Changes and Rash

Your fingernails/toenails may become dark, brittle, or fall off. Keep your fingernails and toenails clean and dry. You may use nail polish, but do not wear fake nails (gels, acrylics, overlay). If any nails fall off, clean the nail bed well with soap and water and cover with a band-aid.

Some patients may develop a rash, scaly skin, or red itchy bumps. Use an alcohol-free moisturizer on your skin and lips; avoid moisturizers with perfumes or scents. Your oncology care team can recommend a topical medication if itching is bothersome. If your skin does crack or bleed, be sure to keep the area clean to avoid infection. Be sure to notify your oncology care team of any rash that develops, as this can be a reaction. They can give you more tips on caring for your skin.

Low White Blood Cell Count (Leukopenia or Neutropenia)

White blood cells (WBC) are important for fighting infection. While receiving treatment, your WBC count can drop, putting you at a higher risk of getting an infection. You should let your doctor or nurse know right away if you have a fever (temperature greater than 100.4 °F or 38°C), sore throat or cold, shortness of breath, cough, burning with urination, or a sore that doesn't heal.

Tips to preventing infection:

- **Washing hands**, both yours and your visitors, is the best way to prevent the spread of infection.
- Avoid large crowds and people who are sick (i.e.: those who have a cold, fever, or cough or live with someone with these symptoms).
- When working in your yard, wear protective clothing including long pants and gloves.
- Do not handle pet waste.
- Keep all cuts or scratches clean.
- Shower or bath daily and perform frequent mouth care.
- Do not cut cuticles or ingrown nails. You may wear nail polish, but not fake nails.
- Ask your oncology care team before scheduling dental appointments or procedures.
- Ask your oncology care team before you, or someone you live with has any vaccinations.

Peripheral Neuropathy (Numbness or Tingling in the Hands and/or Feet)

Peripheral neuropathy is a toxicity that affects the nerves. It causes numbness or a tingling feeling in the hands and/or feet, often in the pattern of a stocking or glove. This can get progressively worse with additional doses of the medication. In some people, the symptoms slowly resolve after the medication is stopped, but for some it never goes away completely. You should
let oncology care team know if you experience numbness or tingling in the hands and/or feet, as they may need to adjust the doses of your medication.

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

- **Infusion-Related Reaction:** Some patients experience a reaction during or within 24 hours of the first infusion. Reactions can range from minor to serious and may include difficulty breathing, cough, wheezing, drop in blood pressure, flushing, rash, and swelling. If this occurs during the infusion, it would be stopped, and Tylenol and/or diphenhydramine is given to lessen these reactions. The infusion may be restarted once symptoms resolve if your provider determines it is safe to do so. This typically does not happen with subsequent infusions.

**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. Effective birth control is necessary during treatment and for 7 months after treatment, even if your menstrual cycle stops or you believe your sperm is affected. You should consult with your healthcare team before breastfeeding while receiving this medication.