Herceptin

**Definition:** Herceptin is a monoclonal antibody that blocks a growth-promoting protein called HER 2 neu. This protein is usually present in small amounts in breast tissue and mostly in breast cancer cells and by stimulating it, epidermal growth factor is produced which causes the growth of breast cancer cells. In about 20% of patients with breast cancer, the amount of HER2 protein increases even more. Patients who have higher levels of this protein are called HER2 positive and may have more invasive breast cancer. Herceptin is able to block this effect of stimulating the growth of HER2 protein. Herceptin is also able to stimulate the immune system to regulate an attack on abnormally growing cancer cells, and this is an effective treatment for some HER2-positive patients whose breast cancer has recurred or whose body has become resistant to chemotherapy. This drug is in the form of powder-like vials that are available to patients in doses of 440 and 150 mg. Some of them have their own solvent and if they do not have solvent, distilled water can be used to dissolve the medicine.

**Appropriate time of injection**

Treatment sessions with this drug in different drug regimens are different according to the instructions of the Ministry of Health of each country. In our country, the accepted method is to start the drug after the first 4 sessions of chemotherapy and along with other drugs, and after the first dose, wait three weeks and inject the next dose to the patient, and then continue the medication every week until 9 weeks after the end of treatment. Some doctors start the drug after the end of chemotherapy or may choose a different injection distance or dose, depending on the opinion of the oncologist.

**How to store medicine**

Due to the sensitivity of the solution and depending on the type of drug manufacturer, this drug should be stored in the middle of the refrigerator at a temperature of 4 °C. If it is dissolved with distilled water it should be used on the same day, and if it is dissolved with specific solvent it can be stored and used up to two weeks.

*Proper storage of the drug increases its effectiveness.*

**How to inject**

Depending on the doctor's instructions, the injection is given, but in general, this drug is injected only in the hospital and under the supervision of a doctor. The injection steps of this drug are as follows:

- A doctor visits the patient and gets vital signs before the injection
- Establishing a proper venous line.
- Injecting Antihistamine according to the instructions of the treating physician.
- Dissolving the drug with the drug solvent itself or using ten cc of distilled water.
- Adding dissolved drug to normal saline (sugar-salt) serum, which is determined by the doctor.
- Infusing the drug slowly over two to three hours
- Getting vital signs again by the nurse.

**Side Effects:** The most common side effects of Herceptin in a first-time recipient are fever and chills. Some people may also have pain, weakness, nausea, vomiting, diarrhea, headache, difficulty in breathing, or a rash. Herceptin may also affect the lungs, sometimes leading to difficulty in breathing.

If you have any questions or ambiguities, call the following number:

023-33437824, Internal Emergency of Kosar Hospital