Cutaneous Lymphoma Foundation

EXTRACORPOREAL PHOTOPHERESIS (ECP)

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WHAT IS EXTRACORPOREAL PHOTOPHERESIS (ECP)?

Extracorporeal photopheresis is a photoimmune therapy that uses the CELLEX® Photopheresis System in conjunction with psoralen to process and treat a patient's blood. This system involves highly specialized equipment that separates white blood cells (WBCs) from the patient's whole blood and then exposes the collected, photosensitized WBCs to UVA light within a photoactivation chamber. A novel aspect of this therapy is that the collected cells are treated outside of the patient's body (extracorporeal). The treated WBCs are then returned to the patient.

It is used to treat cutaneous T-cell lymphoma (CTCL).

HOW IS IT DELIVERED?

ECP is generally a 1.5 to 3-hour procedure, depending on multiple factors, such as venous access and if one or two IV lines are used. During the therapy, a portion of the patient's blood is removed from the vein and processed through a sterile system within the CELLEX® instrument that separates the white blood cells, mixes them with a photosensitizing drug (methoxsalen), and exposes them to UVA light. The cells that are returned to the body are better able to fight CTCL.

ECP is usually given on an every 4-5 week schedule over two consecutive days. This consecutive, two day treatment is considered one ECP cycle. In some instances, ECP is given on different schedules, such as every two weeks, or even every 2-3 months.

The treatment schedule selected depends on many factors, including the stage and severity of CTCL, response to treatment, patient circumstances, and the experience of the treating physician. ECP is usually performed as an outpatient procedure, depending on the patient's condition and the treating physician/institution preference.

WHAT IS THE EXPECTED RESULT?

Clinical trials done from 1984-1987 showed that 73% of the patients met response criteria of a 25% reduction in skin scores maintained for at least 4 weeks. Thirty percent of patients had an excellent response to ECP demonstrating a 75-100% clearing of skin.

The response to treatment time varies for each person, but the average time to response in the clinical trial was 100 days; however, 4-8 months of treatment is usually required to achieve significant benefit for most patients.

ARE THERE SPECIAL CONSIDERATIONS TO BE AWARE OF?

Heparin, an anti-clotting agent, is given during the ECP treatment to prevent any blood from clotting during the treatment. It is important to alert the doctor and nurse if any anticoagulants are taken at home. If an allergy to heparin is in question, an alternate anticoagulant may be used.

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A low-fat diet 8 hours prior to the ECP treatment is recommended in order to prevent excessive lipid levels in the blood, which can interfere with the optics within the CELLEX® instrument.

WHAT ARE COMMON SIDE EFFECTS?

The following is not an exhaustive list of the possible side effects. For a complete list of possible side effects, please see the manufacturer's available information on the specific therapy.

Any time venous access is required, infection, bruising, or bleeding may result. If venous access is difficult, a central line catheter may need to be placed. In this event, the risks of infection greatly increase.

A mild fever, increased itching, or redness may occur 4-8 hours post re-infusion of the treated cells. These symptoms are usually short-lived and tend to resolve spontaneously.

Methoxsalen produces a bodywide light sensitivity; therefore, ultraviolet light (UVL) precautions are necessary to avoid side effects of light exposure such as glaucoma, cataracts, and sunburns. Patients are required to protect their eyes (with UVL protective, wrap-around goggles) and skin (with sunscreen and protective clothing) from UVL exposure for 24 hours after each ECP treatment.

Withdrawal of blood volume is usually limited to less than one pint at any one time; however, some patients are very sensitive to blood volume loss. In this case, the blood pressure may drop. This is usually easily managed through the administration of additional fluids and positioning of the patient. The CELLEX® instrument minimizes this risk as it utilizes a continuous flow or cycling of fluids to limit the total amount of blood that is outside the body at any one time.

During ECP, additional fluid is given to the patient. This amounts to about one pint and is usually not a problem. However, if the patient is sensitive to the administration of additional fluids (as in heart failure), additional measures or precautions may need to be taken to prevent fluid volume overload.