



## Adequate Approach of Etoposide Drug Solubility for Oral Chemotherapy

Maulin Roberto\*

Department of Clinical Pharmacology, Federal University of Rio de Janeiro, Rio de Janeiro, Brazil

### ABOUT THE STUDY

Etoposide is anticancer chemotherapy (antitumor or cytotoxic) drug. Etoposide is used to treat testicular cancer and certain types of lung cancer (such as small cell lung cancer). Etoposide works by slowing the growth of cancer cells. Etoposide is also known under the brand name Etopophos or Vepesid. Etoposide belongs to a class of drugs known as podophyllotoxin derivatives. Etoposide may also be used to treat certain types of ovarian cancer. It can be used in combination with other chemotherapy drugs to treat refractory testicular cancer and as first-line therapy for patients with small cell lung cancer. It is also used to treat other malignancies such as lymphoma, non-lymphocytic leukemia, and glioblastoma multiforme. Etoposide inhibits DNA topoisomerase II, thereby inhibiting DNA recombination. This can cause critical errors in DNA synthesis during the premitotic stage of cell division, leading to apoptosis in cancer cells. It is well absorbed and the time to reach peak plasma concentrations is 1-1.5 hours. Mean bioavailability is 50% (range 25% - 75%). The C<sub>max</sub> and AUC values for oral etoposide capsules show intra- and inter-subject variability. There is no evidence of the first-pass effect for etoposide. Etoposide is metabolized by both renal and non-renal processes i.e., metabolism and biliary excretion.

Drug interactions can change how a drug works or increase the risk of serious side effects. This medicine is slowly injected into a vein by a medical professional. As directed by the doctor, usually it will give 30-60 minutes or more a day, or a total of 3-5 doses every other day. This cycle can repeat every 3-4 weeks. The dosage depends on the medical condition and response to

treatment. Do not increase the dose or use this medicine more often or for longer than prescribed. The condition will not improve faster instead risk of side effects will increase.

In addition to the desired effects, drugs can have some unwanted effects. Not all of these side effects occur, but if they do, you may need to consult a doctor. Bleeding gums, blood in urine or stool, chest pain, chills, cough, fever, pain or difficulty urinating, pale skin, red raised skin, sore throat, pain, ulcers, lips or mouth white spots on the inside, swollen glands, difficulty breathing on exertion, unusual bleeding or bruising, unusual tiredness or weakness are some of the most common side effects. It is important to take each dose of this medicine as scheduled.

The duration of treatment depends on the drugs that are taken, how the body is responding, and the type of cancer. The ability of chemotherapy to kill cancer cells depends on its ability to stop the cells from dividing. Drugs usually work by damaging the RNA or DNA that tells cells how to copy themselves when they divide. If the cells are unable to divide, they will die. The faster the cells divide, the more likely the chemotherapy will kill the cells and shrink the tumor. Before using this medicine, tell the doctor or pharmacist about your medical history, especially your blood problems (e.g., low red/white/platelet counts), liver disease, kidney disease, previous radiation/chemotherapy treatments, and heart problems.

Etoposide may increase the risk of infections or worsen existing infections. Drinking alcohol every day while using this medicine may increase the risk of stomach bleeding. Children may be more sensitive to the side effects of this drug, especially allergic effects. This drug can affect fertility in both men and women.

**Correspondence to:** Maulin Roberto, Department of Clinical Pharmacology, Federal University of Rio de Janeiro, Rio de Janeiro, Brazil, E-mail: mauroberto@edu.br

**Received:** 29-Jul-2022, Manuscript No. JBB-22-18112; **Editor assigned:** 02-Aug-2022, PreQC No. JBB-22-18112 (PQ); **Reviewed:** 17-Aug-2022, QC No. JBB-22-18112; **Revised:** 24-Aug-2022, Manuscript No. JBB-22-18112 (R); **Published:** 31-Aug-2022, DOI: 10.35248/0975-0851.22.14.487

**Citation:** Roberto M (2022) Adequate Approach of Etoposide Drug Solubility for Oral Chemotherapy. J Bioequiv Availab. 14:487.

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