



Vincristine

What names may be used for this medication?

Vincristine, Oncovin; this drug belongs to a class of drugs called vinca-alkaloids

How and why is this medicine given?

Vincristine is given by an intravenous (IV) infusion (a slow drip through a needle into your port or through a vein in your arm or hand) to treat many different types of cancers. We use it most commonly in our office for the treatment of gestational trophoblastic disease, certain types of ovarian cancer, and cervical cancer. It may be used by itself or combined with other chemotherapy drugs.

How does the medicine work?

Vincristine binds to structures called microtubules within the cell. These structures as a skeleton for the cell and are also used to separate the cell's DNA (the machinery or "brain" that runs each cell) during cell division so that each new daughter-cell will have its own DNA. Vincristine binding prevents the separation of the DNA and thus prevents the cell from reproducing. Vincristine also works by preventing the manufacturing of DNA, RNA (a "copy" of DNA that serves as a "recipe" for cellular proteins), and proteins. Vincristine is not able to discriminate between good cells and cancer cells, so it can affect many parts of your body besides the cancer. Since non-cancer cells are better than the cancer cells at repairing the damage caused by vincristine, the cancer cells die and your normal cells repair the damage so they can resume their normal function. The side effects

you experience from vincristine are a result of this damage to your healthy cells before they have a chance to repair themselves.

Vincristine is cleared from your body through the liver by your biliary system, but small amounts of its by-products are also eliminated by your kidney. The enzyme systems that cause this metabolism in the liver can be influenced by other medications. It is therefore very important for you to be sure your list of medications that you take for other health problems (such as blood pressure, diabetes, etc.) stays accurate and up to date in our office. We will review your medication list at each visit, and we will monitor your liver and kidney function through blood tests performed prior to each treatment cycle.

How often is this medicine given?

Vincristine may be given by a variety of dosing schedules from weekly (every 7 days) to bi-weekly (every 14 days) to monthly (every 28 days). The most appropriate administration schedule and the total number of treatment cycles recommended will vary based on your clinical circumstances, but an initial plan will be outlined for you by your doctor. The infusions may be given at the infusion center in the Cancer & Research Center (white building located across the parking lot from our office) or in the hospital. Treatment location will depend on your specific circumstances (for example, what other drugs are given along with vincristine and the administration schedule). Prior to each treatment, you will be seen in the office for an exam, and blood tests will be reviewed to be sure it is safe to administer your next treatment. It is, of course, very important to keep all of your appointments for chemotherapy and lab testing.

What side effects does this medicine cause?

There are many possible side effects of all chemotherapy drugs, so the following is only inclusive of the most common or serious possibilities from vincristine. You will be asked to complete a symptom form at each visit in order for us to accurately assess the side effects that you may be experiencing. This form helps your doctor be sure that no adverse effects of treatment are overlooked, and it serves to help you recall which symptoms you may have experienced since your last treatment.

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- ❖ Hair loss may be experienced with vincristine, and some patients do experience more hair loss than others. Hair growth should return upon completion of treatment.
 - ❖ Nausea and vomiting are seen with vincristine. These symptoms are certainly less common today than in the past because of much improved anti-nausea medications. Most of our patients do not have any significant trouble with this side effect. You will be given prescriptions for medications to prevent nausea, and it is important that you take them as directed in order for them to be most effective. If you have questions, do not hesitate to call the office.
 - ❖ Nerve toxicity may be seen in patients taking vincristine. Both sensory and muscle nerves may be affected. Numbness, tingling, burning, or pain in your hands or feet, or ringing in your ears may be signs of nerve injury. Vincristine can also affect other nerves (autonomic nervous system) that control maintenance of blood pressure when you change positions, bladder and bowel function, and sexual arousal. Neurotoxicity is much more likely in patients with diabetes, heavy alcohol use, or when vincristine is given with other neurotoxic drugs (such as cisplatin). Please report these symptoms if present at your next office visit. These symptoms may or may not resolve after stopping treatment and can lead to difficulties with daily activities such as clasping jewelry, buttoning clothes, or clumsiness with walking among others.
 - ❖ Bone marrow suppression is when the bone marrow cannot make enough red cells, white cells, or platelets to keep up with demand, and this is a side effect of most chemotherapy medications, including vincristine. All of your blood counts will be monitored regularly throughout treatment.
 - ◆ *Anemia* is the result of not enough red blood cells and may cause fatigue, chest pain, shortness of breath, or dizziness.
 - ◆ *Neutropenia* results when your white blood cell count goes too low, and this will put you at an increased risk for infection. It is very important that you avoid sick friends and family; be diligent about hand-washing as well. This does not mean that you cannot be out in public, and in fact you can continue to participate in normal activities such as going to church or a movie, etc. If you think you may have an infection or have a fever of 100.5°F or more, call the office immediately.
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- ◆ *Thrombocytopenia* is the term for too low of a platelet count. This can lead to excessive bruising or bleeding with only minor injury such as brushing your teeth or blowing your nose.
 - ❖ *Mucositis* is sores/ulcers in the mouth that can cause pain and difficulty eating or swallowing. This is common with vincristine, but can be minimized with good oral hygiene and a warm salt-water solution gargled after each meal. Prescription medication is also available if these steps are ineffective at resolving your symptoms.
 - ❖ Constipation commonly occurs with vincristine, and it may be severe. This may be associated with bloating and cramping. Keep your bowels regular with a regimen that works best for you and your lifestyle, and drink plenty of fluids. Over the counter stool-softener/laxative medications can and should be used liberally. We will also give you some additional literature on the management of constipation in general that should also prove helpful.
 - ❖ Rare events associated with vincristine include lung damage, stroke, and heart attack.
 - ❖ Vincristine can cause problems with fertility. It is not uncommon to stop having periods while receiving vincristine, but these typically return to normal after stopping treatment. Your doctor will discuss this in more detail if applicable to you.
 - ❖ If you are pregnant or become pregnant during therapy, you should notify your doctor immediately.

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