Arsenic Trioxide (Trisenox®)

Pronounced: AR-se-nik trye-OX-ide

Classification: Antineoplastic Agent

About Arsenic Trioxide (Trisenox®)

Arsenic trioxide is a form of the naturally occurring compound arsenic. It has been used by health practitioners (particularly in Asia) for hundreds of years. It is safe when given in small doses by experienced healthcare professionals. It seems to work against cancer by causing cancer cells to self-destruct; this is also known as apoptosis.

How to Take Arsenic Trioxide

Arsenic trioxide is given by intravenous (into a vein) infusion. Your specific dose will depend on your body size. Your treatment schedule will depend upon where you are in your treatment course.

Possible Side Effects

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

Differentiation Syndrome

This is a syndrome resulting from the changes arsenic trioxide causes to blood cell production in patients with leukemia. Symptoms of differentiation syndrome include: fever (temperature greater than 100.4°F or 38°C), sudden weight gain, bone or joint pain, and fluid build-up around the heart, lungs, and/or chest, causing shortness of breath or difficulty breathing. This syndrome is treated with high doses of steroids (like dexamethasone or prednisone) and diuretics (fluid pills). Your healthcare providers will monitor for these signs or symptoms, but it is also important for you to tell your doctor or nurse promptly if you experience any of these symptoms.

Heart Issues

This medication can cause slow or abnormal heartbeats or an abnormal heart rhythm called QT prolongation. You will be monitored prior to and during treatment with electrocardiograms. In some cases this medication can also cause a faster than normal heartbeat. Notify your healthcare provider right away if you feel abnormal heartbeats, chest pain or if you feel dizzy or faint.

Encephalopathy

This medication can cause an inflammation of the brain, also called encephalopathy. You should contact your provider right away for any symptoms such as confusion, decreased level of consciousness, seizures, changes in how you are thinking, trouble walking, or changes in your vision or hearing.

Nausea and/or 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.

**Headache and Muscle or Joint Pain/Aches**

Your doctor or nurse can recommend medication and other strategies to relieve pain.

**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 on non-alcoholic, un-caffeinated fluid a day to prevent dehydration.

**Electrolyte Abnormalities**

This medication can affect the normal levels of electrolytes in your body. Your levels will be monitored using blood tests. If your levels become too low, your care team may prescribe specific electrolytes to be given by IV or taken by mouth. Do not take any supplements without first consulting with your care team.

**Leukocytosis (high white blood cell count)**

This drug can impact your white blood cell counts. Generally, it does not cause any problems, nor does it require stopping the treatment. Your healthcare provider will monitor your white blood count during treatment.

**High Blood Sugar**

This medication can cause elevated blood sugar levels in patients with and without diabetes. Your healthcare team will monitor your blood sugar. If you develop increased thirst, urination or hunger, blurry vision, headaches or your breath smells like fruit, notify your healthcare team. Diabetics should monitor their blood sugar closely and report elevations to the healthcare team.

**Rash/Itching**

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 doctor or nurse 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 healthcare provider of any rash that develops, as this can be a reaction. They can give you more tips on caring for your skin.

**Edema (Swelling)**

This medication can cause swelling. If you experience, rapid weight gain or swelling in your legs or feet, notify your oncology team.

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

- **Allergic Reactions:** In some cases, patients can have an allergic reaction to this medication. Signs of a reaction can include: shortness of breath or difficulty breathing, chest pain, rash, flushing or itching or a decrease in blood pressure. If you notice any changes in how you feel during the infusion, let your nurse know immediately.
- **Secondary Cancers:** A secondary cancer is one that develops as a result of cancer treatment for another cancer. This is quite rare, but you should be aware of the risk. In most cases, a secondary cancer related to chemotherapy is a blood cancer (leukemia, lymphoma). This can occur years after treatment. This is most often associated with repeated treatments or high doses. Your provider will monitor your labs closely. Consider having a complete blood count with differential checked annually by your healthcare provider if you received high risk therapies.
- **Liver Toxicity:** This medication can cause liver toxicity, which your oncology care team may monitor for using blood tests.
called liver function tests. Notify your healthcare provider if you notice yellowing of the skin or eyes, your urine appears dark or brown, or you have pain in your abdomen, as these can be signs of liver toxicity.

**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 6 months after the last dose for women and for 3 months after the last dose for men. Even if your menstrual cycle stops or you believe you are not producing sperm, you could still be fertile and conceive. You should not breastfeed while receiving this medication or for 2 weeks after your last dose.

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